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A first edition of our Diary for 1877 is just ready for foreign circulation. Australian copies go by the mail leaving Southampton on the morning of the 16th, New Zealand copies by the San Francisco mail of the next day, West Indian copies by the mail of the 17th inst., and Canadian, American, Indian, and other foreign copies by mails in the course of the current week. Within another week we shall be ready to supply home subscribers. Copies will be sent to these, in most cases, by Sutton's parcel delivery. Every subscriber who is entitled to receive a December number of our journal has also a claim for an 1877 Diary. Firms requiring extra copies will oblige by making early application. Subscribers will be supplied with such at 2s. 6d. each, others at 3s. One of the chief features of this Diary is a collection of nearly 300 useful formulæ, classified and carefully selected from current literature. We are confident this year's publication will command at least as much approval as any previous issue.

The Pharmaceutical Council met on November 1. Mr. Atherton made the announcement that the threatened medical prosecution of chemists for counter prescribing at Nottingham had been abandoned. He believed the higher class of the medical

profession had experienced a revulsion of feeling, and there need be no fear of further interference with chemists and druggists in their ordinary business. Mr. Greenish reminded the council that that observation applied only to Nottingham.—Next month being the period for appointing the examiners for the ensuing year, a short discussion occurred on this subject. Mr. Bottle was disposed to appoint special men for the special subjects. Mr. Greenish thought occasional changes in the *personnel* of the Board were desirable, and he remarked that Mr. Hanbury had expressed a similar opinion in his "Science Papers." Mr. Schacht said it was difficult to get good new examiners, and he thought the best means of preventing them from getting into grooves and thus aiding the coaching system, was to let each go through the various subjects in rotation. Mr. Cracknell said this course would be very inconvenient. He thought it best to let the board follow its own discretion. Mr. Greenish repeated his suggestion that the examiners should report generally on the results of their examination of unsuccessful candidates, to show in what subjects they had most usually failed. The President (Mr. Williams) said this could be done, but it was a question of policy. He also remarked that such figures would be to some extent fallacious, inasmuch as when a candidate failed hopelessly in any one subject his examination was not proceeded with.—The subject of the sessional prizes again came forward. Mr. Greenish urged that a student who had attended the lectures in two sessions ought not to be allowed to compete for the silver medals. This would make the terms of competition for the silver medals similar to those for the bronze medals. The President, Mr. Sandford, and Mr. Schacht, opposed this suggested alteration. Mr. Sandford thought such a regulation would look like discouraging proficiency. Mr. Hampson, Mr. Frazer, and Mr. Hanbury, supported Mr. Greenish's proposition, Mr. Hanbury remarking that where a prize was a mark of *relative* excellence as this was, it was very unjust to allow a second year's man to compete against a first year's man. In the case of the Pereira medal, which was a token of proficiency, the regulations ought not to be changed. Ultimately it was resolved that the committee should reconsider the question.—The Law and Parliamentary Committee reported that they had seen a deputation from the Trade Association, and had explained the council's reasons for not prosecuting co-operative stores. A letter from Her Majesty's Treasury had been received in reply to one written by the secretary asking permission to attach, towards payment of expenses, the penalties recovered under the Pharmacy Acts. The Act of 1852 provides that these penalties "shall be paid as the Commissioners of Her Majesty's Treasury shall direct." The commissioners did not see sufficient reason for acceding to the registrar's request, and requested that the cash in hand be paid over to the Consolidated Fund. It was resolved to wait upon these commissioners, and try to move them. In contrast with this a letter was read from the Board of Inland Revenue, which, said that, "in deference to the wishes of the Council of the Pharmaceutical Society," the commissioners consented to raise no objection to the use of methylated spirit in the preparation of aconite and belladonna liniments.—A report from the examiners of the College of Preceptors on the October "Preliminary" concluded the business.

We publish an official report of the first meeting of the executive committee of the Chemists' Trade Association, held at Birmingham, on October 20. We hear that the committee has decided not to admit reporters to its meeting, but will itself prepare for publication a report of its own proceedings.

The threatened prosecution of some Nottingham chemists for counter prescribing in the most simple form has been abandoned. It has been said that this is due to a revulsion of feeling on the part of the higher class of the medical profession. The statement is not exact. The higher class of the medical



profession did not promote the prosecution, nor, can we think, ever sympathised with it. A revulsion of feeling is therefore a very inaccurate term to apply. It is more likely that the certainty of a resolute defence, coupled with the probability of popular disrepute, stayed the hands of the Medical Defence Association. It is right to bear this in mind, for this is an instance of the usefulness of our Trade Association, not less solid though certainly less brilliant than a victory won after a struggle.

The pharmaciens of Orleans (France) have lately agreed between themselves that half their number (turn by turn) shall close shop on Sundays and holidays. In order to provide as far as possible for the convenience of the public who may require medicines urgently it is arranged that the closed pharmacies shall always show a printed list of those which are open.

Mrs. Crace Calvert has presented to Owens College, Manchester, the sum of 700*l.*, for the foundation of a scholarship in chemistry, in memory of her late husband, Dr. Crace Calvert, F.R.S. The scholarship will be of the annual value of 25*l.*, and will be competed for by members of the evening classes.

The Goldsmiths' Company have resolved that a sum of 1,000*l.* be given to the Chemical Society to aid the fund for the promotion of original research.

The death of an official in Carlisle Gaol from an overdose of chloral leads the *Lancet* to urge that this dangerous medicine should be included in the poison schedule of the Pharmacy Act. It will hardly, we think, be denied that, as our contemporary remarks, some "restrictions on its free use are needed for the safety of the community."

The provincial associations have been inaugurating their sessions during the past month. Among the presidential addresses one by Mr. Frazer, of Glasgow, is noticeable for its vigorous, though very courteous, opposition to the Trade Defence Association. Mr. Frazer fails to see that there is much the matter, and what is wrong he thinks might be set right by the Pharmaceutical Council. He rather approves than otherwise of surgeons keeping open shop in small country towns, though he somewhat naïvely adds, "I go as far as anyone in condemning as unwarranted a wholesale rush into our business by medical men in towns such as our own."

The Norwich Association has collapsed altogether. After a thorough and careful canvass of the assistants and apprentices of the city it was found, writes Mr. Octavius Corder in a letter to the *Pharmaceutical Journal*, that only seven were willing to enrol their names as students in the course of classes for the ensuing session—twenty-two having joined the previous year. It is worthy of remark, Mr. Corder adds, that the fall of the Norwich Chemists' Association is simultaneous with the opening of a fashionable skating rink.

A judgment was obtained by the Pharmaceutical Society on October 20 against Henry G. Statham, of 15 Broadley Terrace, Blandford Square, for infringement of the Pharmacy Act. The defendant contended that he had sold the business to a Dr. Carter, a qualified medical practitioner, and that he was only acting as Dr. Carter's assistant. It was proved, however, that the premises were let to defendant, and on that evidence the judge gave his decision for the plaintiffs.

A chemist named Wm. Lambert Kibble, formerly in business at Tavistock Place, Tavistock Square, committed suicide on the 28th ult., by drinking a large quantity of prussic acid. He was in the employment of Mr. Edwards, of Clapton, and had charge

of his shop, at 4 Portland Place, North Town, Clapton. He was paid 120*l.* per annum. A verdict of suicide while in a state of unsound mind was returned.

In their report for the half-year ending August 31 the Civil Service Supply Association announce that goods had been bought to the amount of 421,877*l.*, and sold to the amount of 455,155*l.* The gross profit on the trading amounted to 42,864*l.*, and other sources of revenue made a total gross income of 45,749*l.* The working expenses were 35,150*l.*, being at the rate of 7*l.* 14*s.* 6*d.* per cent. on the amount of the sale.

The following subjects are announced for the meeting of the Chemical Society on the 16th inst. at Burlington House:—1. "On Barwood," by the late Dr. Anderson; 2. "On Potassium Tri-iodide," by G. S. Johnstone; 3. "On the Coal Gas of the Metropolis," by J. S. D. Humpidge; 4. "On Calcium Sulphate," by J. B. Hannay.

### MENIER.

IN France, where commercial initiative is more than commonly hampered, we are glad to remark an occasional exercise of that indomitable will and intelligent industry which overrides all obstacles and achieves exceptional success. Such an instance we find in the eminent subject of our sketch, whose portrait is included in this month's issue.

Of all the notable *commerçants* of Paris, M. Emile-Justin Menier is perhaps the most notable. As a merchant, manufacturer, philanthropist, political economist, scientific man, and deputy in the National Assembly, his rank is fully acknowledged. M. Menier is still in the very prime of life, being only in his fiftieth year. He was born in Paris and brought up at Noisiel, in the Brie country, a few miles distant from the French metropolis, and he has always preserved a filial affection for that neighbourhood, as the progress of our biography will exhibit.

Whilst but a youth he seems, in the midst of the various manufacturing industries with which the department of Seine and Marne abounds, to have contracted the singular activity, clear insight, and strong common sense in business affairs which has so remarkably distinguished his subsequent life. His scientific studies were pursued under those eminent chemists Orfila, Dumas, Pelouze, and Balard, and between the years 1843 and 1852 he earned the numerous diplomas and brevets which have enabled him to pursue legally and intelligently the immense business developed in chemical products at his extensive works, located both at St. Denis and at Noisiel. His *début* in the business world occurred under the auspices of his father, a graduate of the *Prystanée Militaire de la Flèche*, who, in 1815, was attached to the sanitary department of the army.

M. Menier, on the death of his father, became the sole proprietor of the vast business which they had together cultivated, and his further efforts gave such impulsion to these enterprises as to produce an almost unequalled extension of affairs.

His laboratories at St. Denis were freely thrown open to students in the schools, as well as to the most noted scientific men, the rarest products being placed at their disposition for the purposes of experiment.

In the year 1859 M. Menier founded an annual prize of 500 francs, to be awarded by the *École de Pharmacie* under the title of the *Prix Menier*, for researches on medicinal drugs. In 1864 he organised a school of practical chemistry, and afterwards participated in the establishment of a course of lectures on this subject, being aided in this by the well-known M. Fremy, of the Institute of France, and he devoted towards



# THE CHEMIST AND DRUGGIST PORTRAIT GALLERY.

XXIII.



M. EMILE-JUSTIN MENIER.





the expenses the sum of 10,000 francs. Everything which concerns the instruction of the masses has always enjoyed the ardent sympathy and support of M. Menier. He is a member of the Patronal Committee of the Polytechnic Association, and in the town of Noisiel he has built model schools for the children of the entire population, and has organised lectures for his workmen. In 1872 he offered a sum of 10,000 francs to be distributed to the school teachers in each department of France who reported during the year the greatest number of scholars in attendance. He is also one of the founders of the Free School of Architecture, as well as of the Society for the Advancement of the Sciences and of the Anthropological Institute. In the month of February, 1875, M. Menier communicated to the French Academy of Sciences an interesting essay upon a scientific and practical fact long well known in agriculture, but which had until then been insufficiently appreciated. All farmers know that fertilising matters only produce their effect upon the ground and crops when they are in a state of solution, and that this solution produces results in consequence of the liquid in a more or less acid condition penetrating the molecules of the substance. The longer this process is in taking place the more is the fertilising effect retarded; consequently, to expedite results, the farmer has a great interest in employing fertilisers in as pulverised a state as possible. Experience demonstrated this long before science, and Hippocrates echoed experience and fledgling science when he said *Corpora non agunt nisi soluta*. What Hippocrates said of medicines may also apply to the fertilising matters for the ground, says M. Menier, and he has stated his proposition in a formula, thus: *Les corps, dans un liquide actif se dissolvent proportionnellement à leur surface*; briefly, that solvents act in proportion to the surface of substances to be acted upon which is presented to them, and M. Menier therefore counsels the farmers to employ the old windmills still scattered throughout the country in France, and in most cases lying unused, for the pulverising of their manures. M. Dumas, the eminent secretary of the French Academy of Sciences, having heard of this suggestion of M. Menier's, expressed his approbation in the strongest terms.

Formerly at the head of perhaps the most important wholesale drug and chemical business in France, whose *locale* was in the old Quartier du Temple, M. Menier some years since disposed of that branch of his business to the Pharmacie Centrale de France, and has devoted himself since entirely to his chocolate manufacture.

It is only recently that M. Menier has entered political life. In the year 1870 he was elected a member of the Conseil Général of his department—Seine et Marne—and recently he was returned to the Chamber of Deputies. M. Menier has founded a semi-monthly review, entitled *La Reforme Économique*, in which a most extensive group of known writers, aided by his own fertile pen, treat social, political, financial, scientific, industrial, agricultural, and commercial topics. M. Menier's actual contributions to this periodical are on the subject of the "Theory of Free Trade," and he is also the author of several brochures on the taxation of capital, into the details of which the limits of this article do not permit us to enter. M. Menier is one of the few Frenchmen who have been nominated to the membership of the Cobden Club. At the London Exposition of 1862 he acted on one of the International Juries as Chairman of Class II. He was named a Chevalier de la Legion d'Honneur in 1861, and is consequently one of the few commercial men entitled to tie in his buttonhole that little red ribbon so dear to the heart of every Frenchman. At the Universal Exposition in Paris, in 1867, he was the Commissioner for the Republics of Nicaragua and Costa Rica, besides occupying several other honorary positions in that enterprise. During the Prussian invasion, 1870-71, M. Menier organised in his factory at Noisiel, and in his various establish-

ments at Paris, several ambulances, and he also personally visited the fields of action of the combats of Bourget and Buzenval to aid in the care of the wounded. We need hardly mention M. Menier as a manufacturer of chocolate: his great celebrity dispenses us from that task, but some of the details of his vast business are so surprising that we briefly note them as of special interest. He is probably the greatest cultivator of cocoanut trees in the world, having some years since purchased a patch of territory in Nicaragua, 32 miles square, on which are now growing more than a quarter of a million trees. Also he acquired in 1865 6,000 acres of land on Lake Nicaragua, on which are growing 35,000 trees. The first estate is entitled Valle Menier, and the second one San Emilio. A brochure of M. Menier's informs us that the cocoanut is a beautiful tree, varying from 6 to 30 feet in height, and generally reaching the age of 30, and sometimes 50 years. Its most productive period is from the age of 8 to 25 years. Each tree bears about a hundred nuts, and the crop is capable of being constantly gathered, but at the Valle Menier it is only done twice in each year. M. Menier's sugar refining works (from the beet root), situated at Roye, in the Department of the Somme, France, produce annually 5,500,000 pounds of white crystal sugar. Extensive works for the manufacture of the "Chocolat Menier" exist in Southwark, London; but the parent and principal establishment is at Noisiel, where a whole village is grouped around the works, all under the liberal inspection of the proprietor. The annual product of the two factories is stated to be 16,700,000 pounds, valued at more than one million sterling. At Noisiel nearly a thousand workmen are employed at wages relatively high, and a village of pretty and convenient houses has been built by M. Menier, including schools, hospital, baths, lavatories, &c. Here was given, last August, a *fête* of the most colossal proportions, which necessitated an expenditure by M. Menier of some three thousand pounds sterling. The entire population of the neighbourhood came *en masse*, and the most bountiful provision was made for the nourishment of this large gathering, as well as for their entertainment with fireworks, games, dancing, &c. In the beautiful little "Parc Monceaux," in Paris, M. Menier owns a palatial residence, adorned, we are told, with all the artistic elegance that wealth can command, and in the old street St. Croix, Bretonnerie, jogs steadily along, worked by a mammoth organisation of clerks, the enormous business of which the subject of our sketch has been the architect.

## Pharmacalia.

### IN THE PROVINCES.

Nothing extenuate is a very difficult line of conduct to pursue: infinite tact and wisdom are required to speak the truth in love. Yet not to speak the truth, fearing to give offence, and to slip through life easily because with no definite opinions, is a weak thing in any man; while such a position of ill-purchased ease a writer cannot accept with honour. The old, and to us particularly perplexing, subject of provincial educational effort is brought under notice by addresses, statements, reports, and correspondence bearing on chemists' associations scattered through the country. In the discussion of this matter we are under the distinct disadvantage of living in a London atmosphere—knowing and reverencing London men and work—and of being fully conscious of the supreme facilities which the metropolis affords. Hence the charge is not difficult to make, that views coming from such a source must be strongly tinged with prejudice and disfigured with foregone conclusions. We disclaim both suppositions; and



while we try impartially to collect material and to offer comment, we would pray the reader of his charity to be as fair to us as we hope to be towards others.

Mr. James B. L. Mackay, from Newcastle-upon-Tyne, gives evidence of a desponding character. "It is with regret, yet not with surprise, that he reads particulars of the collapse"—of a certain association. "It is strange, yet true, that an immense number of aspirants to the so-called profession [pharmacy] shew considerable aversion to any studious training, and still more is it notorious that there is much disinclination for social intercourse with their fellows." Again—"The amount of jealousy and party feeling exhibited by both masters and their employes throughout the country is almost incredible, and I believe exists more in our association than in any other." Such is the sketch of the situation, and the limner proceeds to fill up his outline and make his shadows deeper.

He knows several towns where assistants hate associations of all kinds, and where masters hate each other. It would seem not a bad speculation to wheel up the united happy family from the arches near Charing Cross, and take the exhibition through the provinces. It might form an instructive moral panorama.

"In his own large town," continues the writer, indifference is the prevailing feeling; the science classes are deserted, and in a place containing about seventy chemists' shops, a minimum of nine students cannot be scraped together to study hygiene and physiology. "It is therefore a source of regret that in this enlightened age inclination for mental advancement, and even desire for erudition, should be at so low an ebb."

Affairs look cheerful in the North. Were this to be accepted as an uncoloured narrative, might not the London men indulge in the spirit of the Pharisee, and thank God for the same reason?

We do not accept the statement, either as regards the Newcastle association, the general distaste alleged to be evinced by its pharmacists to natural science, or, the paltry considerations by which they are said to be affected.

Nor can we accept the statement until confirmed and endorsed by others, so long as the personal friendship we enjoy with some members of the association dwells in our recollection, or we forget (as is by no means likely) that pharmacy is indebted to Newcastle for two admirable addresses, as also for some fine contributions to natural science in the way of geological, microscopical, and original research. Nevertheless, the record tends to strengthen an impression that while the country presents splendid individual instances of distinguished pharmacists, provincial efforts to promote education, apart from the London centre, have hitherto met with poor encouragement, Clifton excepted always.

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From Norwich comes a note of sorrow—the Chemists' Association of that city has entirely failed. Journalists are supposed to be omniscient and to be behind the scenes of every stage. In this case we are at fault; nor are we able to give the smallest explanation. Norwich is one of the last places where such an event might be supposed to happen—the very home of intellectual culture, round which entwine the memories of the Taylors and the Gurneys; the spot where a bishop thought it no interference with his sacred duties to advance the study of ornithology. The beauty and completeness of its pharmacies, as well as the character of its pharmacists, have long been beyond praise; and yet within its precincts not more than seven young men are found willing to save pharmacy from a fiasco.

Whether it be that all-centralising London, spoken of already, swamps the provinces, or that the larger training schools upset lesser enterprise, we cannot say. The fact remains that the Norwich chemists are without an association of their own, and that the plans made for the advancement of their junior members have been frustrated.

Octavius Corder intimates that the collapse of this educational union synchronises with the opening of a skating rink—that is a novel mode of rolling on the echoes. Professor Attfield often tells with satisfaction that it was the persistent absence of his students that shut up the Holborn. It was then a casino devoted to the light fantastic; now it has ventured on the slippery paths of ice, but no distressing consequences are apprehended by the Doctor.

Mr. Corder, unwilling that it should be thought that no good pharmacy could come from Norwich, has published a sketch of his laboratory apparatus. It consists of a 12-gallon copper boiler, one evaporating pan (16 gallons), a second pan (6 gallons) which may be converted into a still, a Donlon and Watts earthenware still (3 gallons) for sal volatile, and a galvanised iron tank with tin worm, where all waste steam may be condensed as distilled water. Gas is the heating power, and the work was executed by Pontifex & Wood. The apparatus is convenient and well arranged, suitable for the ordinary uses of the pharmacist. Felt is recommended as a coating to prevent loss of heat by radiation.

The designer seems to urge that the council should provide sets of apparatus at the Square for the guidance of retail establishments and home manufacturing chemists.

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Intelligence from Northampton is not of an inspiring nature. Mr. G. C. Druce, the president, "greatly regretted the association could not show better results after the initiation of earlier closing last winter." "After Christmas the attendance at the classes had become so bad as to render it necessary to discontinue what might have been a good programme." The council lamented in the same strain—"in placing the report of their fifth year's work before the members they regret that the attendance during the past year was so poor that a great portion of the classes had to be omitted, a result perhaps partly owing to the comparatively few who were eligible to prepare for the Minor examination."

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Now the scene shifts, and our great manufacturing towns appear.

Liverpool rises up with a flourishing association and a first-rate address by Mr. A. H. Mason. Seventeen members, one honorary and one associate, have been elected during the past session.

Messrs. Morsen have presented the museum with specimens of rare chemicals; while the president gives as his contribution a collection of opium alkaloids and their derivatives.

The librarian reports that 230 books have been taken out during the session, a most healthy sign of progress.

Of Leeds we can say nothing, as their entire proceedings were devoted to the claims of a nether newly-created organisation; but Manchester is up and doing, and their affairs may well prosper when they have Mr. Baden Bonger for a secretary and Mr. Louis Siebold as chief lecturer. The thanks of all the associations are due to these gentlemen for their excellent work in promoting the interests of the British Conference. During the past session five papers have been read at the monthly meetings: the courses of chemistry, pharmacy, materia medica, and botany have been well attended.

A reasonable hope is entertained that the Manchester School of Pharmacy may become self-supporting. Such a condition the council deems (and the whole world of good sense is of the same opinion) to be the one satisfactory position.

Note should be taken of the list of lectures about to be delivered:—Chemistry and physics, thirty; materia medica and pharmacy, twenty-five; analytical chemistry, twenty lectures; and botany after Christmas. On the other hand, the subscriptions run rather short, and the reading-room has been neglected.



We would apologise for the omission of other associations were not space limited. From every provincial record we gather one conclusion, that to 'compete with the known marvellous facilities of London is at the best of times a very difficult thing: in proportion as these known facilities increase, and of late they have done so enormously, the difficulty will be increased. This forms no reason for despair, but it is an explanation of events that happen. It is not the presence of a stray rink, nor an occasional misunderstanding between country members, nor exceptional indifference on the part of students, but the magnetic influence of centralisation, that is the cause of failure. Decentralisation is a slow process, and it is effected quickest where provincial life assumes most of the character of the metropolis.

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Paris is the central point of attraction for all France. To it all hopes converge, and by it all other standards are measured and compared. Were not some strong-handed policy to intervene the result would be that this one favoured circle would be in bright sunshine and the rest in shadow.

In the briefest possible manner we would indicate the system of French provincial education, without which the general question can scarcely be understood. The University of France is one national establishment, divided into 17 academies, which are distributed all over the kingdom. Each academy has from 17 to 20 lycées under its control. Lycées are of three classes: those of the first order are found in any great prefecture, as Marseilles, Lyons, Bordeaux, and Rouen. Lycées of the second order are found in large sub-prefectures. Lycées of the third order, which take the name of colleges, are found in a small sub-prefecture, such as Dieppe. All in their several degrees give the best possible education that can be devised. In all there is the same discipline, the same students' uniform, and the same curriculum. Hence, to describe the Lycée of Rouen, with which we are personally acquainted, will be to give a description of the rest.

The Lycée Corneille, Rouen, belongs to the Academy of Caen, the rector being M. Séguin. There are about eight hundred pupils, none admitted under seven years of age. The pupil enters the preparatory class, and after a stay of one or two years he has to choose between three great careers.

I. The course called Latin—time, about eight years, one year in each division, according to a fixed programme of study.

This includes Latin, Greek, and French literature, subordinate to which, but yet compulsory, are mathematics, physics, chemistry, history, and geography. On the expiration of his time he undergoes an examination before his academy, and if received he has the title and certificate of *bachelier ès lettres* sent down to him by the University. Armed with this he goes to Paris to enter on the technical studies of the career he has selected, either of law, physic, or pharmacy.

II. The course called Mathematics, followed by officers in the army or navy, or engineers. This includes mathematics, physics, chemistry, and mechanical drawing, subordinate to which are Latin and French literature. Programme reversed.

When seventeen years old the pupil undergoes the examination of his academy, and if received he has the title of *bachelier ès sciences*. His own lycée now gives him a two years' high course of mathematics, with which thorough preparation he tries for admission either at the École Centrale of Paris (engineering), the École Polytechnique (army), or at the naval schools of Brest and Cherbourg, and enters on the technical studies of the career he has selected.

III. The course called Commercial. This includes mathematics, physics, chemistry, legal commercial knowledge, geography, and political economy, subordinate to which are French literature, English, and drawing. When his time has

expired the pupil undergoes the examination of his academy, and if received he has the title of *bachelier ès arts*.

The world is then before him, and he does his best. He seeks no other education at some higher school, for the provincial training is complete, and is sufficient.

In all three courses physics, chemistry, and the natural sciences are taught. In all three there are competent teachers, while every lycée possesses laboratories for physics and chemistry and courses of practical manipulation; new apparatus judged worthy of introduction is despatched to every lycée in the kingdom; each one has its library, containing one or two thousand books, maps in atlases or relief, and instruments with which to learn mathematics, land surveying, mensuration, and astronomy. Nor does the governmental system interfere with private enterprise: rather it stimulates secondary education, for the private schools find it to their interest to send their scholars to the more important classes, and reap the benefit therefrom.

How this system radiates and bears a direct influence on higher professional life in every known branch it is beyond our limits, as it would also be foreign to this journal, to describe: such details must be sought elsewhere. Leaving every man to form an unbiased judgment, it is permissible to state our own. We believe that the entire system of provincial education which prevails in France is incomparably superior to the disconnected efforts which have been and are made in England. We believe in the wisdom of a plan which provides for all a liberal education, sufficient and distinct, as the basis of success in other studies or in life. We believe in the paternal kindness which prevents a man engaged in acquiring professional skill, technical knowledge, and position, or absorbed in practical commercial life, from being tormented by the preliminary studies which belong to youth.

We believe in the liberality which makes all sections of a great country equal and independent, and which offers its highest university distinctions, or its most effective preparation for trade industry, to the community.

Now we speak in behalf of British pharmacy and pharmacists; of those who, amid long hours and business cares, with scanty remuneration and small leisure, are repairing the deficiencies of a neglected education—hard fate, hard times. Such things should not be; they are a sore evil. So long as they exist the provinces must suffer; so long as the right things are studied at the wrong time there are but three issues to the struggle—either the hot-house plan of condensed instruction is embraced, or London monopolises education, or pharmacy is abandoned for some more congenial and less exacting occupation.

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Mr. Edward Brown, of Leeds, has made a large humble pie for the use of dispensing chemists. Its consumption will probably be limited to Briggate and its vicinity. When we read his letter, and reflected that it was addressed to a large number of examined men, we first thought that it was a playful *jeu d'esprit*; then a communication from one of the Peculiar People—lastly, the sad result of remaining 30 years "both in the surgery and for the most part at the retail counter." "What claim," he asks, "have we on the medical profession for prescriptions?"

Really we do not know, except that it is one of the unremitting efforts of our lives to understand a physician's orders and to execute them with fidelity and care. We have no claim but competent skill to discharge the duties of our calling, and that of knowing our own business.

But, remarks Mr. Edward Brown, the old apothecaries have the start, and they are the legally qualified dispensers: moreover there are surgeries better conducted than many so-called dispensing establishments. Establishments of this class no



more concern the matter than the low surgeries which are a disgrace to medicine.

The question rests with the modern race of educated pharmacists, men thoroughly prepared to undertake that division of labour which is implied in the making up of prescriptions—a section of medical work too burdensome to be added to regular professional engagements, and too important to receive divided attention. A society, called the Pharmaceutical, has spent years in elevating the standard of the druggist, in order to make him the fit and natural aid of the physician.

Dispensing is one fair mode of co-operation, and is but a legitimate exercise on the druggists' part of his proper function. Mr. Brown thinks otherwise—we pharmaceutical chemists are a poor set, and must be cautioned not to use constraint or put pressure on the profession. However, there is hope; it springs eternal in the human breast, and was in Pandora's box. Years hence we may struggle upwards if we can only emulate the conduct of that surprising and wonderful man Henry Jenkyns, who lived over a century. But if the pharmacist declares that he can dispense *now*, say as well as the apothecaries and with equal right, what may happen is darkly hinted at by Mr. Edward Brown. The offender will probably be put in chains, or beheaded on Tower Hill in presence of the Lord Mayor. If we are half as stupid in tactics or dispensing as the Leed's homily presupposes we shall richly deserve our fate.

\* \*

Come into the garden for a moment, and let us talk about the flowers. Mr. George T. Porritt, president of the Natural History Society of Huddersfield, has kindly told us about botanical societies in Lancashire, and specially about the scheme of the Lancashire Operative Botanists. Almost without exception the members of these societies are purely working men. A large number of persons in good social position would willingly have joined, but from the fact that for many years the members refused to hold their meetings on any day but Sunday: the summer excursion was made upon that day, while the meeting in the afternoon was held in the public house. The Yorkshire societies formerly adopted the same plan, but a change for the better has taken place. That of Huddersfield started on a new basis about fourteen years ago, and is in a flourishing condition. A compact little journal is issued, called "The Naturalist," under the joint editorship of C. P. Hobkirk and G. T. Porritt.

The Earl of Dartmouth allows the members the free range of his estates for collecting specimens, and usually presides at the Exhibition of Objects of Natural History held in the town at varied intervals. But it is with the Lancashire Operative Botanists that we have to do.

It was reserved for the working men of Tyldesley and Ather-ton to strike out a new idea.

They have clubbed together and formed a sort of joint-stock company, with shares of 1*l.* each, 130 of these having been taken up by 97 members. With the money they have secured two acres of land, pleasantly situate, and containing a lovely dell. The spot thus selected they mean by their own efforts to turn into a Botanical Garden.

Every evening for some months past they have been busy with their spades, digging and delving, making winding walks and raising banks: diligently working with their own hands to lay out and utilise the ground.

Shortly the "landscape gardening" will be complete, and the beds ready for planting.

A cottage at the entrance of the enclosure is intended for the occupation of one resident member who is to act as librarian and custodian. The books belonging to the two societies are to be entrusted to his care.

The grand old gardener and his wife would have rejoiced over the undertaking.

The wives of these brave operatives will rejoice with double reason, for the love of flowers is an antidote to debasing pleasures. Let but the garden smile and the homestead shall be glad.

When the workman seeks for recreation in out-door exercise and the cultivation of the soil, nature, which betrayeth never, repays his toil a hundredfold: the rose blooms in his little plot of earth, and roses in his children's faces.

## Scientific Notes from Foreign Sources.

### ALBUMINATE OF SANTONINE AND SODIUM.\*

ACCORDING to Pavesi, a combination of santonine and of bicarbonate of sodium with soluble albumen forms a valuable vermifuge. The preparation is made in the following manner: 1 part of santonine, 4 parts of sodium bicarbonate, and 2 parts of dried soluble albumen are warmed with a sufficient quantity of water at 60° to 70° until all are dissolved, and then evaporated to dryness at a very gentle heat. The albuminate of santonine and sodium forms brilliant white scales, soluble in water. The mineral acids precipitate santonine and albumen, with disengagement of carbonic acid. The reasons for which Pavesi gives the preference to this combination over the use of santonine alone are the following. The after effects of santonine, among others, that of yellowness of vision, are entirely obviated. The preparation is not decomposed in the stomach, because the bicarbonate of sodium in the combination retains the santonine in solution, the coagulation of the albumen is prevented, gently purgative sodium salts are introduced into the body, and finally, by the disengagement of a small quantity of carbonic acid, an active digestion is produced.

The properties claimed for this preparation should be examined by more extended researches.

### COD LIVER OIL AND IODIDE OF IRON.†

WE give below the formula of this preparation, published in the *Nieuw Tydschrift voor de Pharmacie in Nederland* by the commission named by the Société Néerlandaise pour le Progrès de la Pharmacie to examine specialities and secret remedies:—

P. iodine	..	..	..	..	1 part.
Fer. pulv.	..	..	..	..	1 part.
Cod liver oil	..	..	..	..	80 parts.

Triturate the powdered iron and the iodine with one-fourth of the cod liver oil, and warm the mixture on a water bath, stirring continually until the brown colour of the iodine gives place to a rich purple tinge. Ferrous iodide is formed and dissolves; add now the remainder of the oil, mix well, and after rest decant into dry bottles, which must be quite full, cork immediately, and protect from the light. This ferruginous oil contains 1.5 per cent. of ferrous iodide: it is of a deep purple colour, and the taste does not sensibly differ from that of ordinary cod liver oil. Subjected to the influences of light and air its colour changes at the end of some days and becomes reddish brown. Although the taste is but little affected, it is of importance to prevent the change of colour, which always denotes the presence of uncombined iodine. It will keep unaltered in well-closed flasks. The taste and colour are the best criteria by which to judge of the condition of the oil.

### ON ADULTERATED LYCOPodium.‡

GENUINE lycopodium is even yet a somewhat costly drug, and being largely used as a dusting powder for children a considerable quantity is annually consumed. That imported from France and Italy is usually adulterated with some pollen, and the sophistication is not easily recognised. [With the assistance of the microscope very easily.—*En. Pharm. Zeitung.*]

\* *Journal de Pharmacie de Genève*, July 5, 1876, p. 82.

† *Journ. de Pharm. de Genève*, July 5, 1876, p. 83.

‡ *Pharm. Zeitung*, July 5, 1876, p. 454.



In Greece large quantities of this *pseudo*-lycopodium may be collected, and an active man can collect during the flowering season two to four and a half pounds daily, and so earn several drachmas in the 24 hours. In medicine lycopodium is used in disorders of the urinary organs, and in such cases the sophisticated article evinces quite as great activity as the genuine. For the production of artificial lightning, too, the false lycopodium may be used either with or without resin powder. In pharmacy it is applicable for covering pills, and in place of genuine lycopodium may be used for dusting tender places on infants.

#### POPULAR REMEDIES FOR RHEUMATISM.\*

By LAUDEREN.

IN the East thousands of persons suffer from rheumatic pains, although in a condition of continual perspiration. Repression of the same, *retentio sudoris*, also results in such pains and in a general feverish condition. I am acquainted with plants, and more especially roots, which are popularly employed as anti-rheumatics, and particularly as antipodalics: all belong to the class of rubefacients or even vesicants. Amongst these may be mentioned the bulb of *Skyllo kromyda*, i.e., *Scilla maritima* or sea onion: the painful parts, the feet, the soles of the feet, the calves, &c., are rubbed with the fresh bulb. In consequence of the itching and tickling, followed by intense redness, the pains subside. The fresh root of *Cyclamen Europæus* or *hederæ-folius* is employed for the same purpose, and by rubbing on the more tender parts of the skin causes reddening and formation of pustules. *Clematis vitalba*, *flammula* and *recta* are suitable chiefly as antipedalics: these were formerly known as *Radix Arthranita*, and *Flammula Jovis*. These plants were called by Dioscorides *Klematis Agria ampelos*, wild vine, and *Vitis sylvestris*, and the berries of the snake vine, *Ophiostaphylis*. The leaves of these plants are bruised, and bound over the painful places until smarting and often very rapid formation of pustules are produced. The pustules are kept open for a long time to discharge.

#### THE REMOVAL OF GREASE SPOTS FROM MARBLE.†

THE German *Building News* (*Bauzeitung*) says:—To remove grease spots from marble is no very easy task—for the most part the grease penetrates deeply, and is very obstinately retained by the crystalline substance. A satisfactory result is obtained most quickly by smearing a semi-fluid paste of benzole and chalk mud, in a layer about 20 millimetres thick, over the spots, and covering with a wet cloth. The operation must be repeated until the spots disappear.

#### DIALYSED SALICYLIC ACID.‡

STEP by step, with the ever-growing development of the production of salicylic acid on the manufacturing scale, improvement in the quality of the product has been kept in view, so that now in pure salicylic acid an article is introduced into commerce which as regards its physical properties and chemical purity is said to satisfy such reasonable demands as can be made on an article of this nature. Notwithstanding this, there is a widespread desire to go still further, and to obtain a product which shall be dazzling white, and therefore free from the smallest trace of resinous or tarry substances. As is well known, the latter adhere to salicylic acid with great tenacity. We have therefore paid considerable attention to the removal of the last traces of these foreign substances from salicylic acid, and are after many experiments in a position to announce success. By mere re-crystallisation from aqueous or alcoholic liquids, in which the resinous body easily dissolves, the salicylic acid obtained retains only such traces as are enclosed within the crystals from the resin-holding mother-liquor. The acid obtained by crystallisation from alcohol is in heavy, large, needle-shaped crystals, and not in the bulky condition which is desired. The best result has been obtained by dialysis, by which means every trace of non-crystalline resinous substance has been removed, so that the acid got in this way is the most satisfactory in point of chemical purity which has hitherto been produced. It is,

therefore, particularly worthy of recommendation for medical and chemical purposes, as well as for the preservation of articles of food. The price of the dialysed acid is somewhat higher than that of the ordinary crystallised acid, but its production on a larger scale would so far reduce this that the difference would not stand in the way of the purer variety being generally used.

#### ON AN ARTIFICIAL SUBSTITUTE FOR BEESWAX.\*

By GUSTAV HELL.

THE author relates that a short time ago an article was offered for yellow beeswax, which, on account of the moderate price, sold largely, and which he has determined to be entirely factitious. The appearance of this false wax is almost identical with that of genuine beeswax. In colour, brittleness, fracture, and adhesiveness, the difference is very slight. On the outer surface the characteristic honey-like smell, although faint, was distinctly perceptible. The freshly-cut surface, however, has not the same lustre as in genuine wax, and the freshly-fractured surfaces give a marked pitchy odour. Melted at a gentle heat the smell of honey is lost, and the pitchy odour asserts itself in an unmistakable manner; at a stronger heat it becomes intense, and persists for a long time. Having ascertained in this simple manner that the article in question was one containing a considerable proportion of pitch, the melting point and specific gravity were determined in the usual way, as follows:—A glass flask, with a wide mouth, was three-fourths filled with water, and a test tube containing small pieces of wax and a thermometer was sunk to the centre of the flask, and the latter lightly closed. The contents of the flask were then slowly warmed by means of a spirit lamp. When about a third of the wax was melted the mercury in the thermometer stood at 70° C. This temperature indicated, therefore, the melting point of the wax. For the determination of the specific gravity two similar pieces of wax were allowed to sink in diluted spirit of wine, contained in a beaker, and distilled water was added little by little and mixed well with the spirit until the pieces floated just beneath the surface of the fluid. The specific gravity of this fluid was then determined. This was 0.962, which was taken as the gravity of the wax under examination.

In the further examination 1 gramme was warmed with 10 grammes of chloroform in a small flask. The solution was clear and yellow, but soon became turbid on cooling, and an almost transparent, colourless, serous mass separated, more particularly upon the walls of the flask. Afterwards 1 gramme was dissolved in 15 grammes of 70 per cent. alcohol by boiling, and allowed to cool. In the clear yellow-coloured solution round and half-round colourless granules were deposited. These were recovered by filtration, dried in the air, and weighed: six decigrammes were thus obtained. The specific gravity of these granules was 0.910. The filtrate was evaporated at a gentle heat, and left as residue a brittle resin of a beautiful dark-yellow colour, weighing about four decigrammes. Further, one gramme of the wax in raspings was boiled, and well shaken in a solution of 1.4 gramme borax in 20 grammes of distilled water. A colourless mass separated on the surface of the liquid in the vessel. The liquid was turbid, but on cooling was neither milky nor gelatinous; Japan wax was therefore not present. The same experiment was made with the granules free from resin. This time the fluid remained clear during boiling and when cooled. The granules united into a cake at the top of the fluid. A sample in fine shavings was then agitated with diluted ammonia solution: a portion of the residue above-mentioned, free from resin, was also treated with ammonia. In both cases the fluid remained clear and transparent, and the samples unchanged, indicating the absence not only of stearin, but also of curcumin and olearine. The granular body quite free from resin, which, according to the above tests, contained neither stearine nor Japan wax, was now tested for paraffin. It had a lustrous appearance and alabaster-like transparency, yielded between the fingers without adhering, and dissolved easily and completely in oil of turpentine and benzine, but not at all in five parts of absolute alcohol.

The examination carried out and described as above should be clearly understood to set up a claim to be exact and exhaustive. It shows the object to be determined, viz., that this product bought and sold for beeswax was no other than a mixture of about 60 per cent. of paraffin and 40 per cent. of common resin, run into cakes, and thinly covered with

\* *Pharm. Zeitung*, July 8, 1876, p. 462.

† *Pharm. Zeitung*, July 26, 1876, p. 516.

‡ *Pharm. Zeitung*, August 2, 1876, p. 523.

\* *Pharm. Post.*, July 1, 1876, p. 218.



genuine beeswax. The examination shows also that the specific gravity alone is not sufficient for the detection of adulteration in wax, and that a product perfectly corresponding in this respect with genuine wax may nevertheless be entirely factitious and useless.

#### A USE OF MILK SUGAR IN PHARMACY.\*

By W. G. BIBBY.

J. C. BIDDLE recommends the mixing of milk sugar with powdered squill to prevent it cohering into an almost solid mass. In reference to this I would suggest that milk sugar may be useful in many similar cases, as, for example, the gum resins, to which may be added from 30 to 50 per cent. To nine parts of guaiac resin or squills I add four parts of the sugar. It is also useful to preserve camphor in the pulverulent form: after the camphor has been rubbed fine by means of a few drops of spirit of wine the powder should be mixed with a ninth of its weight of milk sugar. On Professor Maisch's recommendation, I have used milk sugar in preparing blue pill, and *Hydrargyrum cum cretæ*, with a good result: the extinction of the metal is achieved much more quickly with than without it. For the preparation of blue pill I use equal parts of mercury, conserve of roses, and sugar of milk, and triturate till globules of metal are no longer visible. If, as is sometimes the case, this pill mass is desired in the form of powder, the metal alone may be triturated with the sugar of milk, and an equally good result is obtained. *Hydrargyrum cum cretæ*, on account of the unequal distribution of the metal therein, has fallen somewhat into discredit with certain physicians: the evil is obviated by the simple substitution of 20 per cent. of the chalk by milk sugar.

#### ON A NEW CRYSTALLINE ORGANIC SUBSTANCE.†

By M. D. LOISEAU.

RAFFINOSE is the name given by M. D. Loiseau to an organic substance discovered by him whilst making experiments on the best method of extracting sugar from molasses by means of sucro-acid carbonate of calcium. It is obtained in large or small crystals; the latter when very small are white, their transparency increasing with their size; in a pure state it is very faintly sweet. When dried on filtering paper it is almost insoluble in alcohol of 90 per cent.; one litre at 20° C. did not dissolve 1 gramme; water at the same temperature dissolved about  $\frac{1}{2}$  of its weight, whilst at 80° it dissolved any proportion. Raffinose enclosed in a tube hermetically sealed liquefies at 80° C., and if slowly heated to 100° C. loses 15.1 per cent. of water, which latter is for the most part reabsorbed on exposure to the air. The elementary analysis of 100 grammes gives:—

Carbon ..	..	..	..	..	36.30	36.4
Hydrogen ..	..	..	..	..	7.07	7.07
					56.63	56.63

The formula is therefore  $C^{18}H^{32}O^{16}$ , but if allowance be made for the loss of 15.1 per cent. which takes place when gradually heated to 100° C. the formula must be taken as  $C^{18}H^{32}O^{16} + 5H_2O$ , and from this it will be seen that in the anhydrous condition it differs but slightly from sugar. With this and other evidence of the close affinity of the two substances, M. Loiseau raises the question whether raffinose be not the organic product which precedes the formation of crystallisable sugar.

#### THE ANTISEPTIC PROPERTIES OF BORAX.‡

By M. BÉDOIN.

THE following is an account of two experiments made by M. Bédoin on this subject:—Into two flasks, each holding about 20 cubic centimetres, from 8 to 10 grammes of fresh butcher's meat was put respectively. Two-fifths of one of these flasks was filled with river water, and a similar quantity of a saturated solution of borate of soda was put into the other: the flasks were corked and kept for five days and nine hours. At the end of this period the liquid in the flask containing the borax was

clear and rose-coloured, having neither smell nor deposit; the piece of meat was tolerably well preserved. The liquid of the other flask was turbid, depositing organic matter, and giving out an ammoniacal odour. The piece of meat was more decomposed than in the other case. It contained numerous microzymes. In the other experiment, M. Bédoin put into a flask from seven to eight grammes of blood from a horse attacked with glanders, and two grammes of powdered borax. Seven days after the liquid was of a fine rose colour, transparent, and inodorous. No living bacteria could be discovered, and the globules of blood were perfectly preserved.

#### THE QUALITATIVE ANALYSIS OF CINCHONA AND OPIUM.\*

M. LEPAGE gives the following method for the qualitative analysis of yellow cinchona:—Take several fragments of bark from the same sample, and make with them a coarse powder. One gramme of this is weighed out and reduced to fine powder; this latter is mixed with 10 grammes of distilled water containing 1 gramme of diluted sulphuric acid (10 per cent.). This mixture is left for two or three hours, care being taken to shake it frequently during that time. Seventy grammes of water are now added, and it is again left for some hours, the flask being often shaken; it is then allowed to settle, and filtered. A solution of 280 centigrammes of iodide of cadmium and 250 centigrammes of iodide of potassium in 50 grammes of distilled water is poured slightly in excess into the filtered liquid, and should the cinchona be of good quality it will immediately produce turbidity, and in a few hours a voluminous precipitate. This latter is in direct proportion to the amount of alkaloid contained in the bark. The method is reliable for red, grey, Loxa, or Huanuco barks.

For opium the directions are as follows:—Take 10 centigrammes of the opium, powder this in a glass mortar, and carefully mix it with 25 grammes of distilled water; leave it in this state for half an hour, shaking occasionally, then filter. To two-thirds of the liquid (which should have a decidedly bitter taste) add a few drops of the solution of the double iodide, which, if the opium be good, will cause considerable turbidity, giving place to a flocculent precipitate; should, however, the opium contain but 4 to 5 per cent. of alkaloid, or a smaller quantity, there will be little or no change in the appearance of the liquid. The portion of the solution reserved should, on the addition of a drop of very dilute perchloride of iron, give a red colour, indicating the presence of meconic acid.

It is advisable to repeat this test with several samples of opium taken from the same package.

#### POWDER FOR PRODUCING OZONE.†

By J. L. DAVIS.

"IN order to produce artificial ozone Mr. Lender makes use of equal parts of peroxide of manganese, permanganate of potassium and oxalic acid. When this mixture is placed in contact with water ozone is quickly generated. For a room of medium size, two teaspoonfuls of this powder, placed in a dish and occasionally diluted with water, would be sufficient. The ozone develops itself; it disinfects the surrounding air without producing cough." The attention of the writer was called to the above article, as it appeared in an American medical journal, and his object in this note is to warn the compounder that the powder requires to be mixed with extreme caution. An instance is recorded of an apothecary who inadvertently used a mortar, with the result of an immediate explosion, the consequences of which might have been disastrous had the quantity been larger. The ingredients should be cautiously mixed with a spatula, and then only in small quantities, and not too fine powder.

#### THE INTERNATIONAL EXHIBITION AT PHILADELPHIA.

THE first of these letters reached us just too late for our October issue.

Sept. 30, 1876.

All doubts of the final success of this enterprise have now been completely set at rest, with an attendance daily of 100,000, and on special days of over this number. For

\* Zeitschrift des österreich. Apoth.-Vereines, July 20, 1876, p. 334; from Amer. Journ. Pharm.

† Journ. de Pharm. et de Chim., August, 1876, p. 125.

‡ Journ. de Pharm. et de Chim., August, 1876, p. 134.

\* Journ. de Pharm. et de Chim., August, 1876, p. 135.

† Amer. Journ. Pharm., September, 1876, p. 407.



instance, on "Pennsylvania Day" 250,000 passed through the turn-stiles. The hearts of the managers and stockholders are made to rejoice. The exceptionally fine weather, the completion of the harvesting of the immense crops in the West, and the anticipated closing of the exhibition, naturally swell the tide of visitors until now the grounds are uncomfortably crowded. During the last fortnight the American Pharmaceutical Association held its annual session, and a very pleasant and profitable meeting resulted: many scientific papers were read, and the attendance was the largest yet recorded. As there were numerous objects of pharmaceutical interest at the International Exhibition, and the usual display in connection with the meetings of the association was dispensed with, it was deemed best by the committee of arrangements to hold the sessions on alternate days, adjourning every other day to the exhibition, and there publicly inspecting the interesting specimens gathered from all parts of the world.

This plan seemed well adapted to the exigencies of the occasion, and whilst it was of assistance to the members who had but a limited time to spend in Philadelphia, it secured a larger attendance at the meetings, as the attractions of the exhibition would undoubtedly have lured many away.

A number of the displays of the different nations of pharmaceutical and chemical interest remain yet to be noticed by your correspondent, and taking now the western end of the main building we will begin with the Orange Free State. There is to be found a very well displayed collection of South African products. The most curious in the medicinal way is the cream of tartar fruit, which is shown under a glass case. The sample, which is roundish oval in shape, about  $4\frac{1}{2}$  inches in longest diameter by 3 inches across, is covered with a rind which is sparsely coated with a silvery down. The interior is filled with a not very agreeable looking pulp, composed largely of acid tartrate of potassium. Four small dishes are each filled with some of the cream of tartar, the seeds, the pulp, and the stringy substance which seems to invest the seeds.

The section immediately north is occupied by Peru, and, strange to say, although some Calisaya bark was to be seen at the opening of the exhibition, not a single specimen is now visible, and, indeed, we look in vain for any particularly beautiful or interesting objects. Instead, they have a ghastly array of mummies and skulls, both toothless and dentate, trinkets, daggers, beads, &c., of no interest whatever, except to the ethnologically inclined and that morbid class in all communities who revel in the delights of the graveyard.

If the proper exertion had been made, what a rich collection from this equatorial republic might have been sent! With an area of 500,000 square miles of territory, and a climate which has proved to be the most favourable of any for the production of that greatest boon to suffering humanity ever provided by the Creator, and without which thousands of acres in new countries would be uninhabitable—Peruvian bark; with a rich and productive flora, a soil everywhere two feet, and in many places three feet deep, a most luxuriant arboreal vegetation, abounding in valuable cabinet woods and such useful trees and plants as the caoutchouc, quillaya, clove, copaiba, cinnamon, sarsaparilla, ipecacuanha, jalap, indigo, ceca, escabadier, cedron, &c.; with mineral resources which have been famous since the discovery of the country, with her productive veins of gold, silver, copper, and lead—her gold and silver annual yield estimated by Humboldt to be not less than \$5,300,000—she has quietly permitted some encroaching typhoon to blow the lethargic dust of ages into her eyes, and rests her glory upon her mummies, skulls, earthen pots (2,000 years old), and the departed glory of the Incas.

The Argentine Republic, with but half the population of Peru, has given more evidence of life and activity. The section occupied by this country is immediately north of Peru, and over one thousand specimens of minerals of a very valuable character are shown, and about the same number of medicinal vegetable substances. Unfortunately the labour connected with the proper inspection of these is such that they are not of very much practical value to the ordinary visitor, and many of them are faded and worm-eaten.

The labels are not always of a very instructive character either, the following being fair samples:—Carqueja, astringent; Mastuerzo, popular remedy for diseases of the lungs; Tarilla, Salvia Blanca, Cardo Santo Root, purgative; Durazrillo del Agua, for washing wounds; Amoros Secos, medicinal, also a dye; Pichoa, medicinal, deadly poison for animals; Bijuco Caustico,

a strong blister, used for venomous bites of snakes or mad dogs; Toronjio, for diseases of the heart, &c. The other exhibits of the Silvery Republic show conclusively that the hearts of this people are not set upon chemistry, or even pharmacy, but that raising cattle, hunting, and throwing the lasso, are far more congenial occupations.

Chili, the little strip of country west of this republic, has undoubtedly the most beautiful and attractive collection of argentiferous ores in the whole exhibition, and the enterprise shown by this republic of late years has awakened a great deal of interest in her resources.

The attention given to the education of the population, which has caused her to assume the foremost rank in South American countries in the founding of colleges, academies, &c., is beginning to tell, and prosperity naturally results.

Among the medicinal plants we notice *Mentha Peperita*, Boldo (*Boldea fragrans*), *Matricaria chamomilla*, Yerba mora, (*Solanum nigra*), Altamisa (*Pyrethrum parthenium*), Matico (*Buddleia globosa*), Achicoria (*Chicorium intylus*), Chamico (*Datura Stramonium*), *Asparagus officinalis*, *Rosmarium officinalis*, *Aspidium filix mas salvia* (for baths).

Passing to the East, we come to the grotesque Chinese collection, and such a mass of Celestial handiwork has never before been seen. The articles used to deceive the sick—for they cannot be dignified by the term *materia medica*—are arranged in groups, according to the ports from whence they come—Amoy, Shanghai, &c. The list is large, and, no doubt out of respect to the feelings of the gentler sex, were provided for in a building apart from the main exhibition building.

A careful inspection reveals some very curious secrets of the Chinese art of healing. Many of the medicines belong to the animal kingdom, and to healthy Europeans would be disgusting; but when, as usually happens in sickness, the gustatory nerve acquires increased power, the administration would become almost criminal. A fair idea may be gleaned from the following from the official catalogue:—Dried lizards, the worms out of the silk cocoon, the under shell of the land turtle—strengthening and stimulant, taken in decoction by the old and the weak. A species of hippocampus (sea-horse), stimulant. Fragments of fossil crabs: they are crushed, powdered, and finely levigated, to be used in opacities and other affections of the eyes. Dung, beetle skins, scales of the armadillo, for cutaneous diseases. Fowl's gizzard, the lining membrane of the gizzard of the common fowl peeled off and dried: it presents a wrinkled or plicated surface, yellow or brown in colour, brittle in texture, and has portions of the grain eaten by the fowl still adherent; it is prescribed in dyspepsia, diarrhoea, spermatorrhoea, and urinary disorders. The male bird is used for preparing the drug for female patients, and *vice versa*. Caterpillar, used as a purgative and antispasmodic; hedgehogs' skin, used in decoctions in gonorrhoea, powdered, and applied to venereal sores; gelatine, made from boiling deer's horns, used as a tonic. Dried urine, human, is given in pulmonary complaints, and possesses demulcent properties. Taken internally it is supposed to cure debility, and as a lotion is good for weak or sore eyes. Eggs boiled in boy's urine are also considered very strengthening. Cocoon of a caterpillar, used in inflammation of the eyes. Musk, stimulating and antispasmodic medicine. The horns of a small species of antelope, a cooling medicine, supposed to cure inflammation of the lungs and liver. The bones of the tiger, mixed with hartshorn and the plastron of the terrapin, formed into a tonic jelly, much used in rheumatic affections of the joints, diseases of the bones, ague, debility, &c. Snake skin, for small-pox and as a carminative; dried cow's gall, expectorant; clam shells, cathartic; oyster shells, deafness; backbones of the cuttle fish, used in cancer, mixed with native wine; tortoiseshell glue, salted scorpions, very fine for small-pox; ant-eater's scales, used in rheumatism and to hasten eruption in small-pox; snake's skin, a peculiar kind, which relieves itching in skin diseases and for piles, fistula; cow benzoar, a concretion found in the gall bladder of several ruminant animals, a sedative and tonic. Leeches, not used alive: a decoction, either in water or spirit, of dried leeches, is taken as a purgative, and is applied outwardly to bruises. Rhinoceros horns, the horns of the Sumatran and Siamese rhinoceros: inferior sorts, which might be obtained from the two-horned rhinoceros of South Africa, are said to be imported from Bombay. Decoction of shavings, taken in fever, small-pox, ophthalmia, hæmoptysis, &c. Medicine stone: the stone is roasted, and afterwards put in the urine of a child; after having gone through the process seven times the stone is



dried and powdered; the powder is applied to ulcers and opacities of the cornea. Dried toads, tonic, sudorific; maggots, prescribed in the delirium of fever and dysentery; and so on, *ad nauseam*.

Among the vegetable drugs many were recognised that are used in civilised Pharmacopœias, such as ginger, orange peel, peppermint leaf, cassia buds, ginseng, cardamoms, lemon peel, safflower, buckthorn berries, water melon buds, pumpkin seed, cinnamon, mustard seed, liquorice, &c., but by far the greater number were of unknown origin, even the Chinese being unable to give their scientific names or impart much information. With such an array of medicines does the Chinese physician ply his calling, and it would almost seem as if he selected the most revolting substances in order to wreak vengeance upon the sick, for it is well known that the doctors in China receive pay from their patients only as long as they keep the patient well, and when the inhabitant of this "Flowery Kingdom" is indisposed the medical man's pay is stopped until health is restored.

Japan, the next neighbour to China (both geographically and exhibitionally), shows far more disposition to become civilised, and in her display of articles used in the materia medica has carefully excluded anything which would give offence to eyes polite, and her collection of 300 specimens shows orange peel, indigo, chamomile, almonds, camphor, ginger, poppy heads, poppy seed, alum, white mustard seed, safflower, ginseng, turmeric, castor oil seed, alkanet, peach kernels, saleg, pomegranate, caraway seed, coriander seed, black mustard seed, flax seed, veratrum viride, matricaria, stramonium seed, rose leaves, orris root, aconite leaves; and of inorganic specimens—sulphate of zinc, sulphate of iron, sulphate of copper, acetate of lead, spirit of nitrous ether, oxide of zinc, solution of ammonia, red sulphide of antimony, carbonate of soda, tartar emetic, bromide of ammonium, corrosive sublimate.

A very curious prescription scale is shown, composed of a slender beam of bone, graduated, with a brass pan, suspended at one end by strings. In use, the pan is loaded with the article to be weighed, and a little weight pushed along the bone beam until the proper mark is reached, when more of the powder is added or some removed, until equilibrium is reached.

Japan has sent to the United States three of her distinguished men of science to investigate the subjects of pharmacy, customs, sewerage, drainage, &c., with the view of taking back any ideas which may be of use to them. They were the guests of the American Pharmaceutical Association, and favourably impressed the members by their dignified courtesy and refined inquisitiveness. Their names are—S. Nagayo, Chief of the Imperial Board of Health, Tokio, Japan; H. Miyake, Professor in the Medical College of Tokio, and Commissioner of the Imperial Board of Health; and S. Iwanaga, Commissioner of the Imperial Board of Health.

A great contrast is observed between the intelligence of the representatives of these powerful empires of the East. Most of the Japanese here have acquired the language, dress American fashion, and can converse freely and entertainingly about the habits, customs, &c., of their countrymen, and express correct and shrewd views concerning this country; but the Chinaman can say nothing when addressed on these points, and merely knows enough of the language to respond to the magical influence of a silver dollar in exchange for some trifling toy or bauble.

Just as this letter goes to the Post Office the announcement of the awards made by the judges is at hand, but will be reserved for a subsequent occasion.

October 30, 1876.

The end is approaching. By the time this letter will be placed before the readers of THE CHEMIST AND DRUGGIST the Centennial Exhibition, with all the hurry, bustle, and excitement naturally incident to such a grand undertaking, will have passed into history. The American eagle flaps his wings, plumes his feathers, and complacently settles back to his accustomed perch with a decidedly satisfied air. The largest aggregate attendance, the heaviest gross receipts, the greatest number of people ever assembled at one time in one day for a similar purpose (256,000), the smallest number of dissatisfied exhibitors than at any other affair of the kind (simply because almost every one received a medal who wanted it), in fine, the positive success of the great undertaking with which your American

cousins have been engrossed for a few years past, causes a general good feeling here; but by far the happiest feature about it is that the visitors from abroad seem the best pleased of any, whilst all the world knows that nothing tickles the heart of the average Yankee so much as to outdo all competitors.

Pharmaceutically, much of interest has transpired lately. The American Pharmaceutical Association held its 24th annual meeting on the 12th of last month in Philadelphia, with an attendance of over three hundred members. This body is becoming powerful among American pharmacists: it numbers now over one thousand of the better educated men of the country, and is in a flourishing condition. Its mission is to elevate the standard of pharmacy and encourage education. You have, no doubt, been furnished with a full account of its proceedings. The members spent a good deal of time in examining specimens at the exhibition, the entertainment committee resolving themselves into chaperons for the occasion.

Russia, although coming in late, has an exceedingly interesting exhibit. Her chemicals and drugs have unfortunately been badly arranged, but sufficient evidence is adduced to show that she is not very far behind other nations.

A. Korolef, of Vologda, shows some fine crystals of yellow prussiate of potassa.

Nicholas Lepeshkin, of Moscow, who is proprietor of two chemical works, one at Moscow and one at Ivanov-Vozneconsk, produces yearly different chemical products to the amount of one and a half million roubles. He exhibits crystallised carbonate of soda, acetic and muriatic acids, sulphuric acid, aqua fortis, alum, beautiful specimens of chrome alum, sulphate of copper, sulphate of iron, chloride of manganese, chloride of tin, corrosive sublimate and liquid ammonia.

Peter Ooshkof, of Elabourg, exhibits refined alum, sulphate of copper, and chromate of potassa.

Alexander Poll, of St. Petersburg, shows volatile oil from marsh rosemary (*Ledum Palustre*), and other chemical products.

Basil Filosofov, of Kineshma, sulphuric, nitric and muriatic acids, chloride of tin, red lead, and sulphate of iron.

Gregory Rasterjaef, of St. Petersburg, has ammonias, soda, caustic potash, nitric, muriatic and sulphuric acids, sulphate of iron, sulphate of copper, chloride of zinc, nitrates of lead and copper, refined saltpetre and sulphur.

A. K. Shlippe, of Moscow, produces chemicals to the amount of 200,000 roubles annually. He had on exhibition oxalic and boracic acids, sulphate of iron and copper, sugar of lead, alum, refined soda, oxalate, acetate, sulphate, lactate of iron, water of ammonia, chloride of copper, prussiate of potassa.

But by far the rarest specimens in this case are the Russian drugs shown by Nicholas Matteisen. Russian sheet isinglass of fine quality (we do not find the old-fashioned staple isinglass on exhibition, however), peeled liquorice root, very fine specimens of sumbul root, and cantharides we note particularly.

Italy's products which interest the pharmacist are installed in the Agricultural Hall, and consist principally of olive oil, Castile soap, manna, sulphur, &c.

The Castile soap shown is made by F. Conti & Sons, and is in huge blocks, weighing in the aggregate at least 1,000 lbs., and is of three kinds, white, green, and mottled.

Spain has rather a small display of chemicals and pharmaceutical preparations in the main building. The preparations are mostly proprietary in their character.

Dr. G. Formiguera, of Barcelona, exhibits effervescing magnesia, dry, with syrups, elixirs, &c.

Ferrer & Battle, Barcelona, have 15 large glass jars, on a stand, containing stamped lozenges, marsh mallow, magnesia, calomel, helicina, leche de burra, azufre, peppermint, gona, santonine, tolu, Vichy, &c. The rarest object in this case, however, is some sulphate of copper in cones. These are symmetrical in shape, and look as if they had been crystallised in moulds. They are kept under alcohol in a wide-mouthed vial, and are to be used, no doubt, as cauterising cones. Sugar-coated pills are made in Spain, but not as perfectly as in France or America. They are not globular, and vary much in size. Samples are to be seen of dragees of sulph. quinia and vallets mass, and granules of aconitina, arseniate potassium, arseniate sodium, digitalina, &c. Valerianate of zinc is here, and is recognised not merely by the sense of sight.

The Spanish commission show ext. de zarza and cicuta in large wide-mouthed vials, and the real oil of Ylang Ylang. Various Spanish exhibitors have crystallised tartar emetic and iodide of lead, also syrup of lactophosphate of lime, syrup of jaborandi, sulphate of magnesia, iodide of mercury, chloroform,



anhydrous alcohol, vinegar of iron, oil of almonds, mustard plasters (Papel Mostaza), cocoanut oil, citrate of lime, citric acid, and oil of lemon (from a large manufactory), essential oil of orange, crystallised chloral, phonic acid.

The variety detailed above indicates that Spain is not behind in knowledge of what is going on in the pharmaceutical world around her, but, like many of the foreign countries who have sent goods here, they have not sent experts with them to arrange the articles properly, and it is real labour to hunt them out.

From the Philippine Islands the Spanish send all the specimens of crude drugs that they exhibit, most important being saffron and genuine opium.

The colonies of Great Britain have the most interesting as well as the largest collection of crude drugs in the exhibition, and it may be useful to enter into their examination in detail. In the section devoted to Jamaica are to be seen the oil obtained by pressure from *Cocos nucifera*, as well as the oil obtained by boiling, the latter being the most extensively used of the two.

Oil of Cashew Nut (*Anacardium occidentale*).—This oil has a sweet taste, resembling oil of sweet almonds: the kernels are known in English commerce under the name of cassia seeds.

Oil of Ben (*Moringa pterygosperma*).—An extremely fine, clear, sweet, and fluid oil. Used principally by perfumers and watch-makers.

Oil of Gingelly or Wanglo (*Sesamum Indicum*).—A tasteless oil, used to adulterate olive oil, possessing the valuable property of keeping for years without growing rancid. The seeds yield 40 per cent. of oil.

Ground Nut or Pindaro Oil (*Arachis hypogea*).—A well-known and valuable commercial oil. Yielding 43 per cent. of oil.

Oil of Santa Maria Nuts (*Calophyllum calaba*).—The yield of this oil is very large, 50 per cent., and it is used principally for burning in lamps.

Sand Box Oil (*Heura crepitans*) yields 25 per cent., used as a purgative; in the dose of 20 drops, said to be equal to castor oil.

Oil of Antidote Cacaoon (*Fenillia cordifolia*).—A semi-solid fatty oil, burning well in lamps, and sometimes used medicinally.

Cob Nut or Candleberry Tree (*Aleuretes triloba*).—Known in Jamaica as the country walnut. It is called in Ceylon *kekuna*. A very palatable oil, and used for illuminating purposes. The yield of oil is 57 per cent.

Castor Oil obtained by cold pressure, and castor oil obtained by boiling: this is the kind most usually employed on the island.

Handsome specimens of essential oils are exhibited, such as—

Oil of Pimento (*Eugenia pimenta*).—Made from the berries.

Oil of Pimento (*Eugenia pimenta*).—Made from the leaves and twigs; yield, 75 per cent.

Oil of Lemon Grass (*Andropogon schoenanthus*).—Used in perfumery and also medicinally.

Oil of Seville Orange (*Citrus bigaradia*).—From the rind; 580 oranges, weighing 180 lbs., yielding 12 ozs. of oil.

Oil of Seville Orange Leaves.

Oil of Lemon (*Citrus limonum*).

Oil of Sweet Orange (*Citrus aurantium*).

Oil of Juniper Wood.—Distilled from the wood of *Juniperus Barbadensis*; yield, 0.5 per cent. of oil.

Oil of Eucalyptus Globulus.—Distilled from the leaves; yield, 0.75 per cent. of oil.

Of crude drugs, woods, barks, &c., there is a good collection; pimento berries and leaves, eucalyptus leaves, juniper wood, lignum vitæ, &c.

Yellow Bark (*Cinchona Calisaya*) is represented here by a specimen of 3 lbs., taken from a tree seven years old.

The cultivation of cinchonas was commenced by the Government in 1868, and the plantation now consists of 300 acres about 40 acres having been planted annually. The climatic conditions requisite for the proper culture are found in the Blue Mountains, at a height of from 4,000 to 6,000 feet above the sea, where the temperature rarely falls below 50° Fahr., or rises above 70°, and where the necessary humidity is afforded.

Red Bark (*Cinchona succirubra*).—A 4-lb. specimen, obtained from a tree seven years old. The tree from which this bark was stripped, measuring 22 feet in length, is exhibited with the bark.

Crown or Loxa Bark (*C. officinalis*).—Bark from a tree seven years old, and weighing 2 lbs.

Jalap (*Exogonium purga*).—Containing 10 per cent. of resin, from plants cultivated in Jamaica, 5,000 feet above the level of the sea.

Sarsaparilla (*Smilax sarsaparilla*).—Variety known in commerce as Jamaica.

Senna (*Cassia obovata*).—From plants which originally sprang from senna, introduced by an African slaver a century ago. The Government is endeavouring to cultivate it on an extensive scale.

Resin of Guaiac.—Obtained by incising the trunk, and heating the wood until it exudes.

Aloes (from *A. vulgaris*).

Simaruba Bark (*S. amara*).

Bastard Cabbage Bark (*Andira inermis*).—Represented to be a powerful anthelmintic and narcotic.

Cassia Pods (*Cassia fistula*).

Adine (*Cyperus articulatus*).—It is stated that the negroes use a decoction of the rhizome as an anti-emetic.

Mexican Thistle (*Argemone Mexicana*).—The seeds possess acid, narcotic, and purgative properties.

Cow Itch (*Mucuna pruriens*).

Bitter Bush (*Eupatorium villosum*).—Used by natives in decoction in cases of fever.

Kola Nut (*Cola acuminata*).—Used in diarrhoea and affections of the liver. The fresh nut is said to contain a larger proportion of theine than tea or coffee.

Dogwood Bark (*Piscidia erythrina*).—Used to intoxicate fish: a tincture of the bark of the root is represented to be a strong narcotic and diaphoretic.

Pomegranate Bark (*Punica granatum*).—A valuable anthelmintic.

Ginger (*Zingiber officinale*).—Jamaica ginger is esteemed to be the best in the world: the quantity exported from the island sometimes amounts to 10,000 cwts.

Nutmegs (*Myristica moschata*).—Only cultivated to a small extent.

Vanilla.—Shown in a small way.

Betel Nut (*Areca catechu*).

Chillies, dried (*Capsicum annum*).

Chow Stick.—Used by natives instead of tooth-brushes.

Bermuda has her arrowroot to display, and some very handsome specimens of green roots, together with *Tous les Mois* roots.

British Guiana's drugs are represented by Wm. Fresson's exhibit of castor oil seeds, potash from sour grass, wild cucumber seed, *tous les mois*, tapioca, *Dacamballa* starch, arrowroot, ginger root, Guinea pepper, cacao seeds, cayenne pepper, cassava starch, quassia wood, gilbacker glue (from *Silurus Parkerii*), a very handsome form of isinglass.

Castor oil, cayenne oil, laurel oil, honey, cocoanut oil, copaiba, cassareep, from *Janipha Manihot*.

Trinidad exhibits nutmegs.

The Eastern Colonies are splendidly represented by their drugs, many specimens being entirely new in this country.

The Archipelago of Seychilles shows the finest specimens of vanilla in the group, and in addition cloves and cacao beans.

The Gold Coast has black pepper, physic nuts, benni seed, grains of paradise, bitter oil nuts, palm oil, &c.

Mauritius has a valuable collection of 44 specimens of medicinal plants, the names of which I give for the benefit of your readers who are botanically inclined:—

*Acacia concinna* (fruit).

*Argemone Mexicana* (the seed vessels resemble stramonium).

*Cinnamomum Zeylanicum* (leaves).

*Cissampelos Mauritiana* (leaves).

*Embelia micrantha* (bark and wood).

*Erythria indica* (leaves).

*Ricinus communis* (leaves).

*Hydrocotyle Asiatica* (leaves).

*Jatropha curcas* (leaves).

*Siegesbeckia Orientalis* (leaves).

*Clematis Mauritiana* (leaves).

*Citrus bigaradia* (leaves).

*Kirgamellia elegans* (bark).

*Asparagus officinalis* (root).

*Adiantum candatum* (leaves and stems).

*Amaranthus spinosus* (leaf and flower).

*Buddleia Madagascariensis* (leaf and stem).

*Cynodon dactylon* (stems).

*Davallia termifolia* (leaves and stem).

*Lomatophyllum reflexum* (leaf, flower and seed vessels).

*Solanum angine* (berry, stem, and leaf).

*Spilanthus Mauritiana* (leaf and stem).

*Melia azederach* (bark and wood).

*Mussaenda crenata* (leaf and stem).



*Stachytarpha Jamaicensis* (leaf and stem).  
*Parthenium hysteraphorus* (flower).  
*Totranthera laurifolia* (leaf).  
*Draciana ferrea* (stem).  
*Desmodium cespitosum* (leaf and stem).  
 Red bark (quill).  
*Androphogon schoenanthus* (bark).  
*Cassia Rumphiana* (leaf).  
*Heliotropium Indicum* (leaf and stem).  
*Eupatorium ayaparra* (leaf and stem).  
*Toddalia aculata* (leaf).  
*Polypodium phymatodus* (leaf and stem).  
*Quisqualis Indica* (leaf and fruit).  
*Trishemma tirusamma* (leaf and stem).  
*Quivisia heterophylla* (bark).  
*Vinca rosea* (stem).  
*Hura erepitans* (leaf).  
*Hæmatoxylon campechianum* (leaf).  
*Cassitha filiformis* (root).  
*Albus praccatorius* (root and stem).

Ceylon has a gem in the way of a plumbago specimen from Delmege, Reid & Co., and an elephant carved out of a solid piece of black lead by a Singhalese, probably 12 to 14 inches high, and symmetrical in form.

Belm, Meyer & Co. have a special display of raw products from Singapore. Nutmegs, limed nutmegs, nutmeg fruit, leaves, &c. Cube gambier, nutmegs in shells, gum copal, gum damar, tapioca flour, eloves, flake tapioca, mace, gamboge (pipe), eubebs, stieklae, sago flour, Borneo and pearl tapioca in granules of the size of peas.

The Cape of Good Hope sends 57 specimens, but they are so poorly displayed that one cannot get very enthusiastic over them.]

Gum bessie, myrica; eordifolia (yielding berry wax), 15 lbs. wax from a small round sack of berries? (so says the label); womenhair, wild rosemary, wild dagga, cochineal; bitter bark from Kailis country (Trans Kei), stated by Commandant Bowker to be the bark of a tree abundant in the district, and used by the doctors in fever cases; gum thorn tree, *acaëia horrida*, pomegranate fruit, snake wortels, thorn apple (stink blaaren), muishoud blaaren (musk cat leaves), genees blaaren, *solanum nereum tyne buchu* (*Drosina alba*).

Australia has made a very favourable impression by the display made of her immense resources.

Queensland in particular comes to the fore. R. W. Alexander exhibits *astonia cortex*, bark of *A. constricta*, "contains an alkaloid very like quinia." *Eucalypti* gum, a natural exudation from *Eucalyptus siderophloia*.

*Oleum haliore*, oil of the Dugong *Halicore Australis*, a nutrient oil used in phthisical cases: it is a white semi-solid oil, and intended to substitute cod liver oil.

Tincture *petalestigmia quadrolare* is shown by L. Carmichael, chemist, Brisbane, and also some coloured oil of lemon; *eucalypti* gum, iron bark gum foliated, *eucalypti* gum, iron bark gum purified, spotted gum, bloodwood, mulga, iron bark, box; the gum from *Xanthorrhæa Arborea*, Moreton Bay ash gum, Moreton Bay ash gum (stunted), *baubinia* gum, *gydia* gum (Queensland, four specimens). Infusorial earth, ext. *eucalyptus*, cayenne pepper, Australian kino, bloodwood. Tincture *eucalypti*, an astringent used in the same manner as tinct. catechu.

The most prominent medicinal article, however, in the whole collection is Dugong oil. The authorities are very earnest in calling attention to it, and seem desirous of introducing it.

It will be readily seen that the colonies of Great Britain have been well looked after, and show very full exhibits of drugs, spices, &c., whilst England has laid herself out more particularly on manufactured goods, ceramics, stoneware, pottery, &c. The crucibles made by the Patent Plumbago Crucible Company, Battersea Works, London, make a handsome display, and have earned the good opinions of experts, and carried off an award. In touching again on manufactured articles I should not omit speaking of the fine display of platinum dishes, funnels, stills, &c., made by a firm here, having a factory near Philadelphia, Joachim Bishop, of Sugartown, Pa., and two beautiful nickel-plated stills in E. B. Benjamin's case, from New York.

Geo. E. Mitchell, Lowell, Mass., have an immense collection of plasters of all shapes, sizes, and kinds; thirty-one yards wide rolls of plasters spread on jeans, and 56 different kinds of plasters melted and run into bottles. An enormous plaster, very evenly spread, is shown; it is on one piece of kid, and the

spread plaster measures 4 feet one way and 1½ foot across. Corn and bunion plasters spread on felt in yard wide rolls are also to be seen; and in referring again to Massachusetts, the well-known house of B. C. & G. C. Wilson, of Boston, have unquestionably the handsomest display of indigenous and other drugs in the United States section. They not only show the herbs in a pressed state in such a manner as to enable one to critically examine the structure, but specimens are shown in large boxes in a glass case; the most prominent being coca, malva flowers, coltsfoot, skull-cap, vervain, arnica, marigold, life everlasting, thyme, rue, gold thread, hollyhock flowers, rose leaves, bittersweet bark, horehound, grindelia, jaborandi, centaury, white bryonia, prickly ash berries, sassafras pith, elm bark, sanzy, uva ursi, Canada snake root, &c.

And now, in concluding these flying sketches of the objects which are of common interest to us at this exhibition, it is with feelings of regret. They have not been gleaned without difficulty, on account of the extensive field that there was to go over, and the scattered localities of the objects.

I feel sorry that time and space have not permitted more extended notices, but your correspondent will feel amply repaid if he has contributed anything which may have been profitable to your readers, or have caused them to evince a deeper interest in their toiling brothers who are wrestling with the same difficulties that you are battling against, and enjoying the same scientific pursuits in this land of the setting sun.

Subjoined is a list of British exhibitors at Philadelphia to whom medals have been awarded. We give only those houses connected with the trade we represent. It is likely that a supplementary list will shortly be issued.

Aire and Calder Glass Bottle Company (E. Biffitt, proprietor), 83 Upper Thames Street, London; bottles, &c.  
 Allen, F., and Sons, Canal Road, Mile End, London; sugar bon-bons, &c.  
 Atkinson, J. and E., 24 Old Bond Street, London; perfumery, &c.  
 Ball, J., 12 Duke Street, Grosvenor Square, London; sauce, &c.  
 Beck, R. and J., 31 Cornhill, London; microscopes.  
 Bennett, T., and Son, 70 Turnmill Street, London, E.C.; gold beaters' skin.  
 Bowley and Draper, 23 Mary Street, Dublin; ginger ale and lithia waters.  
 Bond, J., Daughter of late, 75 Southgate Road, London; marking ink.  
 Borolieu and Son, Prescott; ultramarines.  
 Bryant and May, Fairfield Works, Bow, London; matches.  
 Calvert, F. C., and Co., Bradford, near Manchester; carbolic acid.  
 Chance Brothers and Co., Alkali Works, near Birmingham; chemical products.  
 Chance Brothers & Co., Glass Works, near Birmingham; optical glass and glass discs for optical purposes (2 awards).  
 Codd, H., 14 Dunster House, Mark Lane, London; patent globe-stoppered soda-water bottles.  
 Corbett, J., M.P., Stoke Prior Salt Works, Worcestershire; Worcestershire salt.  
 Corry, W., and Co., Cromac Springs, Cromac Street, Belfast; aerated medicinal waters.  
 Crosse and Blackwell, Soho Square, Liverpool; pickles, sauces, preserved fruit, vinegar, preserved salmon (4 awards).  
 Crouch, H., 66 Barbican, London; microscopes.  
 Crown Perfumery Company, 40 Strand, London; perfumes, &c.  
 Dallmeyer, J. H., 19 Bloomsbury Street, London; photographic lenses.  
 Desoto Alkali Company, Limited, Widnes, Lancashire; caustic soda.  
 Field, J. C. and J., Lambeth Marsh, London; candles, soap, &c.  
 Fry, J. S., and Sons, Bristol and London; chocolate.  
 Gaskell, Deacon and Co., Widnes, Lancashire; chemicals.  
 Gerrard, A. W., 153 Liverpool Road, London; pharmaceutical preparations and mustard plasters (2 awards).  
 Geyelin and Co., Belgrave House, Argyle Square, London; concentrated food.  
 Goodall, Backhouse and Co., Boar Lane, Leeds; "Yorkshire relish."  
 Green, J., 12 Graham Terrace, Ridley Road, Kingsland, London; gelatine, &c.  
 Greenbank Alkali Company, Limited, St. Helen's, Lancashire; chemicals.  
 Hicks, J. J., 8 Hatton Garden, London; clinical and meteorological apparatus, thermometers, &c. (3 awards).  
 Higgin, T., and Co., 33 Tower Buildings West, Liverpool; table salt, salt (2 awards).  
 Hooker, J., 104 Upper Thames Street, London; condensed milk.  
 Inman Bros., Aspley Place, Huddersfield; aerated medicinal waters.  
 Jennings, T., Brookfield Chemical Works, Cork, Ireland; magnesia.  
 Keen, Robinson, Belleville and Co., 6 Garlick Hill, Cannon Street, London; mustard.  
 Kent, G. B., and Co., 11 Great Marlborough Street, London; tooth and hair brushes.



Kilner Brothers, Great Northern Goods Station, King's Cross, London; glass bottles, &c.  
 Lea and Perrins, Worcester; "Worcestershire" sauce.  
 Ledger, H., and Co., 61 and 63 Lant Street, London, extract of meat.  
 Liver Alkali Works Company, Lightbody Street, Liverpool; chemicals.  
 Low, Son and Haydon, 148 Strand, London; toilet soaps.  
 Mackay, J., 119 George Street, Edinburgh; varnishes.  
 Menier, E., Southwark Street, London; chocolate.  
 Morson, T., and Son, 31, 33, and 124 Southampton Row, London; chemicals.  
 Murray, A., F.L.S., 67 Bedford Gardens, Kensington, London; illustrations and specimens of galls produced by mites.  
 Muspratt, J., and Sons, 5 Chapel Street, Liverpool; chemicals.  
 Negretti and Zambra, Holborn Viaduct, London; microscopes and meteorological apparatus (2 awards).  
 Newcastle Chemical Works Company, Limited, Newcastle-on-Tyne; soda ash, alkali, &c.  
 Patent Plumbago Crucible Company, Battersea Works, London; dental porcelain, fire-clay furnaces.  
 Pears, A. and F., 91 Great Russell Street, London; transparent soaps.  
 Perks, S., High Street, Hitchin, Herts; lavender oil.  
 Pratt, J., 227 Oxford Street, London; sauce.  
 Price's Patent Candle Company, Battersea, London; candles, fatty acids, &c.  
 Puckridge, F., and Nephew, 530 Kingsland Road, London; gold beaters' skin.  
 Richards, Kearne and Gasquoine, Sandbach, Cheshire; chemicals.  
 Rimmel, E., 96 Strand, London; perfumery, &c.  
 Ross and Co., 7 Wigmore Street, London; microscopes.  
 Runcorn Soap and Alkali Company, Limited, 6 Water Street, Liverpool; bleaching powder, &c.  
 Schalemmmer, Professor, Manchester; hydrocarbon, &c.  
 Smith, T. and H., and Co., 21 Duke Street, Edinburgh; ginger beer and lemonade, chemicals, essence of coffee and fruit essences (3 awards).  
 Spence, Peter, Pendleton Works, Oldham Road, Manchester; alum, &c.  
 Star Plate and Universal Polishing Powder Company, 6 Gracechurch Street, London; polishing powder.  
 Turner, C., and Son, 7 Broad Street, Bloomsbury, London; linseed oil, turpentine, &c.  
 White, J. and J., 80 Wilson Street, Glasgow; bichromate of potash.  
 Wheeler, E., 48 Tollington Road, Holloway, London; preparations for the microscope.  
 Williams, M., Britannia Varnish Works, Wigan; varnish, paints, &c.  
 Young and Strang, Glasgow; dextrine, &c.

## THE DEVELOPMENT OF PHARMACY,

ESPECIALLY IN RELATION TO THE VARIOUS ENACTMENTS WHICH HAVE AT VARIOUS TIMES BEEN PASSED FOR THE REGULATION OF PHARMACEUTIC PRACTICE.

*A Paper read before the Homœopathic Pharmaceutical Association on Wednesday, October 25, by George Cheverton, of Tunbridge Wells. Slightly abridged.*

READERS of Shakespeare will remember the poor apothecary of Mantua:—

In whose needy shop a tortoise hung,  
 An alligator stuffed, and other skins  
 Of ill-shaped fishes; and about whose shelves  
 A beggarly account of empty boxes,  
 Green earthen pots, bladders and musty seeds,  
 Remnants of packthread, and old cakes of roses,  
 Were thinly scattered to make up a show,

whom yet "Mantua's law" half withheld from dispensing his deadly potions to the despairing lover, though at last the consent of his "poverty but not his will" was gained by the price of 40 ducats. I here propose, with your leave, to give a very brief historical review of the status held at various times by medical practitioners, and of some of the principal laws which have successively been passed for the better regulation of the various departments of medical practice, especially in relation to pharmacy, and of which the enactment referred to by the "lean apothecary" is a typical example familiar to us all.

In India and Egypt very stringent laws respecting medical practitioners of all kinds seem to have been in vogue from a very early date; in the latter country, more especially, the whole matter appears to have been regulated by *caste*, and to have been entirely in the hands of the priesthood. In the freer and more enlightened land of Greece, however, although the *Æsclepiadæ*, or supposed descendants of *Æsculapius*, may have for some time

held the monopoly of medicine by a kind of prescriptive tenure—a sort of *jus non scriptum*—yet I am acquainted with no explicit restrictions on the practice of any department of medicine in the days of Grecian glory and independence, with the sole exception of an old Athenian law prohibiting its exercise by women and slaves. Even this was to some extent abrogated in the case of the former after a certain *Agnodice*, having disguised her sex in order to learn medicine, became such a favourite with her obstetric patients that a decree of the Court of *Areopagus* was obtained, rescinding the former law so far as concerned *midwifery*.

It is not very easy to ascertain the precise period at which the branch of pharmacy was first reckoned a distinct department of the medical art. The pharmacæutic physicians whom Celsus mentions as existing as a separate body in the time of Hæsophilus and Erasistratus, *i.e.*, the third century before our era, did not precisely correspond to our "druggists," since the former designation seems to be conferred on such as treated diseases by means of external applications, *as* lotions, and so forth. The *pharmacotribæ* would seem, etymologically, to have been the preparers of drugs, but it is doubtful whether these were not the same as the pharmaceutical physicians last referred to. The *pharmacopolæ*, or drug sellers proper, also called *agyræ* and *medici sellulorii*, appear in many cases to have been mere vendors of drugs which they had not themselves prepared, and, indeed, these appellations became terms of reproach. That the reproach was not universally deserved is apparent from the fact of Aristotle himself having at one time practised this profession, and also that Galen did not scorn to quote a certain Charito, one of these very practitioners, as an authority on the description of certain drugs. Distinct from what we should now call druggists proper were the *herbarii*, or "culters of simples"—generally of the very simplest and commonest of all "simples"—who became justly ridiculous by the superstitious rites with which they accompanied their herb-gathering.

By the appointment of the "Archiatrus" of the palace and of the people in the time of the Empire—with the "Count of the Archiatrus," a sort of medical pope, and the College of Archiatrus, all enjoying a definite status and certain recognised privileges and immunities—a distinct State sanction was given to such members of the medical profession as chose to avail themselves of the terms on which it might be obtained, but even here I fail to discern the establishment of any actual monopoly, or the universal imposition of any laws on all medical practitioners whatsoever.

The organisation of pharmacy as a distinct profession seems to have been the work of the Mahometans, who likewise appear to have originated our present system of collegiate degrees and honours. Their services to chemistry are well known, and are attested by many of the terms still in use among us, as alcohol, alkali, julep, syrup, bezoar, and many others. But, further than this, the Arabians seem to have been the first who published *Dispensatoria*, or, as we should now call them, pharmacopœias, with official sanction and authority. The earliest of these, the "Krabatin" of Sabor ebor Sahel, dates from the latter part of the ninth century; but that which ultimately became the standard authority was published about 300 years later by Abul Hassan, who, notwithstanding his name and his having been physician to the Caliph of Bagdad, was a Christian bishop. The Arabian apothecaries were under the special supervision of the Government, and it is said that a celebrated Arabian general himself made a personal inspection of the drug-stores in his camp.

The next notice which I have been able to find respecting our present subject refers to the celebrated school of Salernum. It hence appears that at the date of the supremacy of that institution—say about the tenth and eleventh centuries—"the druggists were obliged to give proof of their skill to the medical faculty; and to take an oath to prepare their drugs strictly in accordance with the *antidotario* (or pharmacopœia) sanctioned by the Salernum authorities. Even the amount of profit to be derived from the sale of drugs was strictly defined; a profit of 3 *tarenî* per ounce might be charged on such drugs as had been less than one year in stock; 6 *tarenî* on such as had been more than a year. The druggists might only open their shops in certain towns, and two leading citizens in each large town were appointed to exercise a strict supervision over these persons, and in whose presence all medicines, &c., must be prepared. Any failure of duty entailed on the druggists the loss of all their privileges, and on the supervisor, if accessory to the fault, the punishment of death."

Galling and insulting as such regulations must now appear to



members of a liberal profession, it must still be remembered that they are far less humiliating than some of the laws relating to physicians proper which were in force throughout the greater part of Europe as late as the eleventh century. The general opinion seems to have been that a physician was a kind of monster of greed and sensuality, who could not safely be admitted into any respectable house unless the most rigid precautions had been previously adopted to defeat his licentiousness, cunning, and avarice. Take the following as a sample:—"No physician shall perform the operation of blood-letting on a noble lady or a maiden, unless the patient's relations or servants are present, under a fine of 10 solidi; because, if alone, he would probably be guilty of undue familiarity." . . . "If a physician injures a nobleman by blood-letting, he must pay 100 solidi, but if the nobleman dies, the physician is to be handed over to the relatives of the deceased, to be dealt with in such manner as they choose." Rules also are laid down regulating the amount of the fees which may be charged on different occasions. In fact, in such ill odour did the medical profession stand that its practice was forbidden to all the higher ecclesiastics as derogatory to their dignity by the Council of Montpellier in 1162. We have, therefore, little right to complain that our predecessors should have incurred a similar odium. In fact, it may be said that during the Middle Ages, and throughout the glorious days of chivalry, about which we now-a-days hear so much romantic rubbish, the followers of most callings were degraded precisely in the same proportion as the callings were, in their inherent nature and essence, exalted; thus we may place the priests quite at the bottom, the doctors, perhaps, next, the lawyers next, the soldiers next, and so on. On the other hand, the highwaymen sometimes seem to have been decent fellows.

But to resume. In the fifteenth century a work on *materia medica* and pharmacy was published by Saladin of Asculum, physician to the Grand Constable of Naples, from which we learn that about that time a king of Arragon punished an apothecary for selling adulterated drugs. This work is also interesting as it contains directions to druggists or apothecaries respecting the books which they ought to study, as well as many useful moral and professional precepts. It further gives a list of the simple and compound drugs which must be kept in stock, indicating, moreover, the time during which each preparation retains its virtues. In 1484 the French, in imitation of the Arabians, subjected the apothecaries to the direct supervision of the State physicians and medical faculty. In Germany the term apothecary was first used in the sense of druggist at Berlin in 1488, and at Halle in 1493, the appellations having been previously so widely bestowed in that country as to include grocers, wine-dealers, and confectioners.

In England the term apothecary has been used in different senses at different times. In early times, as more recently, it seems to have been the common name for a "general practitioner," a chief part of whose business was probably, in all cases, to keep a shop for the sale of medicines. Thus we find the term applied to one Coursus de Gangeland in 1345, on whom Edward III. settled a pension of 6d. per diem for professional services rendered to his majesty. Towards the close of the seventeenth century, again, we find that the apothecaries in London and its neighbourhood were in the habit of prescribing as well as dispensing drugs; but this real or supposed encroachment was earnestly resisted by the College of Physicians, and an animated paper warfare ensued, of which we still possess an interesting contemporary relic in Garth's burlesque epic poem entitled "The Dispensary," and of which a brief notice, with a marked bias in favour of the physician, is given by Dr. Johnson in his life of Garth. But in the interval between these two periods, the College of Physicians having received its charter in 1518, and the surgeons having been incorporated in 1540, it was found necessary to provide for the toleration of the numerous class of medical practitioners whose services were at least equally valuable and considerably less venal than those of the members of the recognised bodies. Accordingly, in 1543 an Act was passed, the import of which is sufficiently expressed by its title:—"An Act that persons being no common surgeons may minister outward medicines," *i.e.*, discharge what we have seen to be the functions of the ancient "Therapeutæ." Under these were comprehended persons who kept shops for the sale of drugs, to whom the name of apothecaries was now exclusively applied, and who did not begin to act as "general practitioners" until nearly a century and a half later. It is noteworthy that in Scotland the term apothecary is still equivalent to that of dispensing chemist.

In 1606 the apothecaries of London were incorporated and united with the company of grocers, and in 1617 they received a new charter, constituting them into a distinct company of their own.

It has been frequently stated that the order of dealers in medicine now known as chemists and druggists first appeared in England about eighty or ninety years ago, but this assertion is unquestionably erroneous, for we find the right of such persons to vend drugs, though not themselves members of the Apothecaries' Company, strenuously vindicated in a tract entitled, "A Plea for the Chemists or non-Collegiats," published in 1683. However, in 1722, the Apothecaries' Company succeeded in getting an Act passed entitling them to visit all shops in which medicinal drugs were exposed for sale in London and within a radius of seven miles, and destroying such drugs as were unfit for use. This Act expired in 1729, and was not renewed; but in 1748 another Act was passed empowering the society to appoint ten of its members to form a court of examiners, without whose license no one should be allowed to "utter" medicines in London, or within seven miles of that city. At this period there were stated to be nearly 400 unlicensed druggists in London, but this Act appears to have had the effect of greatly diminishing, if it did not wholly suppress, the number of these for almost half a century, which may account for the erroneous supposition that the class of independent chemists and druggists in England first came into existence about the year 1790.

In 1815 another Act was passed, giving to the Court of Examiners, then increased to twelve members, the sole right of examining and licensing apothecaries, not only in London and its environs, but throughout the whole of England and Wales. An apprenticeship of five years was also rendered imperative. It is but just to the Apothecaries' Company to remark that this exclusive Act was passed, not at the instance of the company itself, but at that of a private society, which dubbed itself the "Associated Apothecaries and Surgeons of England and Wales." Moreover, it fell very far short of the wishes of the monopolists its originators, for, by means of the timely resistance of the chemists and druggists, a special clause was introduced exempting that class entirely from its operation; just as the vigilance of the homœopathic chemists and druggists about half a century later defeated the trades-union policy of those selfish and interested persons who wished to wrest the Pharmacy Act, 1868, into a means of sectarian persecution. At a later period the Apothecaries' Company instituted examinations for dispensers distinct from those conferring licenses to practise medicine and midwifery.

In the year 1843, Messrs. Allen, Payne, Pigeon, and some other gentlemen, having formed themselves into an association called the "Pharmaceutical Society of Great Britain," for the purpose of advancing the sciences and arts of chemistry and pharmacy, protecting those who practised as chemists and druggists, and providing a fund for the relief of distressed members or their families, obtained a Royal Charter of Incorporation, whereby they were constituted into a body politic under the title which they had themselves chosen.

By an Act passed in the year 1852 (15 and 16 Vict. cap. 56) a few modifications in the constitution of the society were introduced.

Much, however, remained to be done. By the Act of 1852 it was made actionable for any person not duly registered to assume the name of Pharmaceutical Chemist, or any other title implying that designation; but there was nothing to prevent other persons practising as dispensing chemists, so long as they did not lay claim to any appellation indicative of what I may now venture to call professional status. This led in 1868 to the passing of the celebrated 31 and 32 Vict. cap. 121, entitled "An Act to Regulate the Sale of Poisons and amend and alter the Pharmacy Act, 1852."

Laudable as were the intentions of the framers of the Act, undue precipitation led to some obscurity in certain of its details. The 17th clause, in particular, by the obstructions which it threw in the way of dispensing such drugs as aconite, arsenic, corrosive sublimate, &c., seemed likely to be laid hold of by the allopathists as an ingenious means of shutting up the shops of their homœopathic rivals. To frustrate a selfish design so entirely at variance with the intentions of the legislature, Dr. Madden convened a meeting of the trade, September 8, 1868, to take this subject into consideration, at which, after mature reflection, it was moved by Mr. Engall and seconded by Dr. Drury that a committee should be appointed to watch the course



of proceedings under the Act, and to report any case in which its administration might seem prejudicial to the interests of homœopathy. This committee met September 21, and recommended the formation of a society, having for its objects the development of pharmaceutical knowledge and the protection of homœopathic chemists against any infringement of their rights. This recommendation was adopted at a meeting held October 6, and accordingly the "Homœopathic Pharmaceutical Society of Great Britain" was formed, which, however, so far differed from its present representative, the "Homœopathic Pharmaceutical Association," that it contained no provision for the admission of the assistants of homœopathic chemists. Arrangements were made for this important alteration on sec. 1, by which assistants were declared entitled to attend the meetings and take part in the discussions, *but not to vote*, on the annual payment of 10s. 6d. This was subsequently reduced to 5s., and assistants now possess half a vote. A library was founded November 15, 1870, in accordance with a resolution passed in the previous May, and this valuable institution has been enriched with books and scientific instruments, purchased or received as donations. Every encouragement has been given to the assistants and others to avail themselves of the important advantages thus placed within their reach; prizes have been offered for the best herbaria, &c.; animated and profitable discussions have taken place, not only resulting in great practical advantages, but familiarising the minds of our associate members with the problems with which they will have to grapple in after life in the faithful discharge of the duties of their chosen profession. A more cordial bond of union now unites the widely scattered members of our body, and we may now feel justified in entertaining the pleasing assurance that the association will increase in numbers and prosperity from year to year. I may add that by a clause in 32 and 33 Vict. cap. 117, the 17th clause of the previous Act has been so modified as to free us from all apprehensions from the venality or bigotry of our rivals.

And yet, when I say rivals, I would not have it understood that ours is, in any sense, a sectarian institution. On the contrary, alike in its rise and its progress, it has been a uniform protest against sectarianism. It was founded in order to protect those whom study and reflection had induced to throw in their lot with a hitherto numerically inferior class of medical practitioners from the persecution of those whom either ignorance or selfishness or genuine conviction had withheld from taking a similar course. It exists for our own improvement in subjects as to which the allopaths decline to give us any information, for the best of all reasons, because they do not possess this information themselves. It will result, I hope, in the education of a continually improving race of pharmacutists, ready to carry on the torch of science when it shall have dropped from our exhausted hands. I believe I only echo the sentiments of all here present when I say that the day to which we all most eagerly look forward is the day when all sectarian appellations will be discarded, and when the "schools" shall recognise no distinction save that between truth and error.

## FIRES.

A FIRE, which caused considerable damage, occurred on the 3rd inst. on the premises of Mr. W. J. Bush, wholesale chemist, &c., of Nos. 21, 22, and 23 Artillery Lane, Bishopsgate Street. No. 22, a building of five floors, about 40 feet by 25 feet, was nearly burnt out, and the roof of No. 21. The building and its contents were severely damaged by fire, heat, and water, while the contents on the first, second, and third floors of No. 23 were damaged by smoke and water. The cause of the fire is at present unknown. Mr. Bush's building is insured in the Sun Office, and the contents in the Phoenix. On the same date a serious fire also occurred on the premises of Messrs. Johnson, Matthey & Co., gold and silver refiners, of No. 75 Hatton Garden. A large workshop used as laboratory and melting and refining rooms, to the extent of the first and second floors, was nearly burnt out and the roof off, while the remainder of the buildings, which extend a considerable distance and adjoin Leather Lane, were considerably injured by fire, water, &c.

Another fire was reported on the next day, on the premises of Messrs. Knowles & Phillips, wholesale druggists, of 47 Minories.

## A FEW OLD QUACKS.

IN the "History of Advertising," by Mr. Henry Sampson, published by Messrs. Chatto & Windus, there occurs a chapter on "Quacks and Impostors," in which the author has collected with very much patience, *inter alia*, an interesting collection of the earliest medical advertisements. We take from that work a few of the curiosities which Mr. Sampson has disclosed:—

Joshua Ward was rather a celebrity about the first half of the eighteenth century, even among quacks, as the following lines from the *Gentleman's Magazine* of July, 1734, will show. The heading is—

### UNIV. SPEC. ON WARD'S Drops.

*Egregious Ward*, you boast with success sure,  
That your *one drop* can all distempers cure:  
When it in *S*——*n* cures ambition's pain  
Or ends the *Megrims* of Sir *James'* brain,  
Of wounded conscience when it *heals* the smart,  
And on *reflexion* glads the statesman's heart;  
When it to women palls old *M—ar—'*s gust,  
And cools 'fore death the fever of his lust;  
When *F*——*d* it can give of wit a taste,  
Make *Harriot* pious or *Iorima* chaste;  
Make scribbling *B—dg—* deviate into sense,  
Or give to *Pope* more wit and excellence;  
Then will I think that your ONE DROP will save  
Ten thousand dying patients from the grave.

In the *Daily Advertiser* of June 10, 1736, there is a puff advertisement for Ward, which runs:—

We hear that by the Queen's appointment, Joshua Ward, Esq.; and eight or ten persons, who in extraordinary Cases have receiv'd great benefit by taking his remedies, attended at the Court at Kensington on Monday night last, and his patients were examin'd before her Majesty by three eminent surgeons, several persons of quality being present, when her Majesty was graciously pleas'd to order money to be distributed amongst the patients, and congratulated Mr. Ward on his great success.

In the *Grub Street Journal* of June 24 of the same year is an article on the paragraph, in which it is stated that only seven persons attended at the palace, and that these were proved to be impostors who were in collusion with Ward.

Saffold was an early humbug who depended mainly upon doggerel rhyme for attraction. It is to be hoped that his wares were better than his numbers, or else the deaths of many must have lain heavy on his soul. One of his bills, enumerating his address and claims upon the attention of the public, informs us that of him

*The Sick may have Advice for Nothing,*  
And good Medicines cheap, if so they please  
For to cure any curable Disease.  
It's *Saffold's* Pills, much better than the Rest,  
Deservedly have gained the Name of best  
In curing by the Cause, quite purging out  
Of Scurvy, Dropsie, Agues, Stone and Gout.  
The Head, Stomach, Belly and the Reins, they  
Will cleanse and cure, while you may work or play.  
His Pills have often, to their Maker's Praise,  
Cur'd in all Weathers, yea, in the Dog-Days.  
In short, no purging Med'cine is made, can  
Cure more Diseases in Man or Woman,  
Than his cheap Pills, but three Shillings the Box.  
Each Box contains Thirty-six Pills I'm sure.  
As good as e'er were made Scurvy to cure.  
The half Box eighteen Pills, for eighteen Pence,  
Tho' 't is too cheap, in any Man's own Sense.

At the foot of the bill, after a lot of puffery, he breaks out into rhyme once more:—

Some envious Men being griev'd may say,  
What needs Bills thus still be given away?  
Answer: New People come to London every Day.  
Believing Solomon's Advice is right,  
I will do what I do with all my might.  
Also, unless an English Proverb lies  
Practice brings Experience and makes wise.  
Experimental Knowledge, I protest,  
In lawful Arts and Science is the best,  
Instead of *Finis* Saffold ends with Rest.



Another of his bills, which were various and plentiful, began thus:—

Dear Friends, let your Disease be what God will,  
Pray to Him for a Cure, try Saffold's Skill;  
Who may be such a healing Instrument,  
As will cure you to your own Heart's Content.  
His Medicines are cheap and truly good.  
Being full as safe as your daily Food—  
Saffold he can do what may be done, by  
Either Physick or true Astrology.  
His best Pills, rare Elixir and Powder,  
Do each Day praise him louder and louder.  
Dear Countrymen, I pray be you so wise  
When Men backbite him, believe not their Lies,  
But go, see him, and believe your own Eyes,  
Then he will say you are honest and kind.  
Try before you judge and speak as you find.

At another time the muse informs us, among other things in connection with the great Saffold, that

He knows some who are Knaves in Grain,  
And have more Gall and Spleen than Brain,  
Will ill reward his Skill and Pain.

He hath practised Astrology above 15 years, and hath License to practise Physick, and he thanks God for it, hath great Experience and wonderful Success in both those Arts, giving to doubtful People and by God's Blessing, cureth the Sick of any Age or Sex or Distemper though given over by Others, and never so bad (if curable); therefore let none despair of a Cure, but try him.

Yet some conceited Fools will ask how he came to be able to do such great Cures, and to foretell such strange Things and to know how to make such rare and powerful Medicines, as his best Pills, Elixir and Diet Drinks are, and wherefore he doth publish the same in Print? But he will answer such dark Animals thus:

It hath so pleased God, the King of Heaven,  
Being He to him hath Knowledge given,  
And in him there can be no greater Sin,  
Than to hide his Talent in a Napkin.  
His Candle is Light and he will not under  
A Bushel put it, let the World wonder:  
Though he be traduced by such like Tools,  
As have Knaves' Hearts, Lackbrains are Fools.

I request a favourable Construction upon this Publick way of Practice (And as I am a Graduate Physician) should wholly omit to appear in Print, as well in this Disease as I have at all Times in all other Diseases, only in Opposition to the Ignorant, that pretend to Cure, and to prevent the ruine of them that suffer and I see daily throw themselves upon ignorant and outlandish Pretenders and others, to the Patient's utter ruine of Body and Purse. AND upon this Consideration alone, I was persuaded rather to adventure the censure of some, than conceal that which may be of great use to many.

One other specimen of this artist's verse and we will let him follow his predecessors. It may be as well to mention that when Saffold left the scene of his labours, "his mantle" was supposed to fall on one John Case, who followed in his footsteps so closely that the lines which had done for one quack were often made to do for the other.

Saffold resolves, as in his Bills exprest,  
When asked in good Earnest, not in Jest;  
He can cure when God Almighty pleases,  
But cannot protect against Diseases.  
If Men will live intemperate and sin,  
He cannot help't if they be sick agen.  
This great Truth unto the World he will tell  
None can cure sooner, who cures half so well.

Dr. John Case was a contemporary of Dr. Radcliffe, and a noted quack who united the professions of an astrologer and a physician. He took the house in which Lilly had resided, and over his door was a rife distich which was said to have brought him more money than Dryden earned by all his works. Upon his pill-boxes he placed the following curious rhyme:—

Here's 14 Pills for 3 Pence  
Enough is every Man's own Con-sci-ence.

It is almost impossible to find out when quacks were not, and as we have before remarked, as long as there have been advertisements, whether in newspapers or elsewhere, these cunning rogues have been fully awake to their advantages and uses. One effusion, published as a handbill in the time of William and Mary, is noticeable, as, though the advertisers call themselves physicians, there is reason to doubt their right to the title, and to believe that the college was anything but what

we now understand by the word. The bill proclaims itself as an

#### ADVERTISEMENT.

The Physitians of consult twice the Colledge, that us'd to a Week for the benefit of the Sick at the Consultation House, at the Carved Angel and Crown in King-street, near Guildhall, meet now four times a Week; and therefore give Publick Notice, that on Mondays, Wednesdays, Thursdays and Fridays, from two in the afternoon till six, they may be advised by the known Poor, and meaner Families for nothing; and that their Expectations and Demands from the middle Rank shall be moderate: but as for the Rich and Noble, Liberality is inseparable from their Quality and Breeding.

This is, to say the least, peculiar, the quaint use of the word "advised" seeming very strange, while the wind up shows that whoever and whatever the physicians may have been, they were not likely to lose sight of the main chance. But their notice is feeble compared with another handbill of the same period, which is of the most dogmatic order, and is called

*A friendly and seasonable Advertisement concerning the Dog-days, by Nath. Merry, Philo-Chim.*

In regard that there are many that perish in and about this City, &c. through an evil custom, arising from a false opinion That it is not safe to take Physick in the Extrems of Heat and Cold or in the Dog days; and some exclude old People, Women with Child and little Children, from the use of Medicine; which is as much as to say, That God hath ordained no Medicine for such Times and such Ages, which would be absurd to imagine, seeing we know there is no Time, Age, nor Disease exempted from proper homogenous and effectual Means (with God's Blessing) only against Death there is no Medicine, the Time of which to us is uncertain. From the afore-said Mistakes many labour under the tyranny of their Diseases, till the Catastrophe end in Death (before the Time come which they have allotted for their Cure) which might by timely and suitable Remedies be prevented. It's granted *pro confesso* that there is a sort of *Dogmatical Medicines*, that is unfit to be exhibited in those Times, and are not innocent at any Time, being impregnated with venomous Beams, which by their virulent Hostility invade the vital Economy of the Body. But you may have Archeal or Vital medicines, truly adapted for all Times; being divested of their Crudities and heterogene Qualities, by a true Separation of the pure from the impure, and impregnated with Beams of Light, which give their Influences and refreshing Glances upon the vital Faculties, expels Venoms, alters Ferments, co-unites with Nature and re-unites its powers to their due Economy, and such Medicines being most natural and most powerful in the most deplorable Diseases being timely taken are most effectual, and are no more to be omitted at any time than foods, and are altogether as safe.

And so on at length, until Nath. Merry divulges the secret that he is the man for the dog-days, and that all others are impostors, which in common with many remarks of the kind, found in most advertisements of the same and other times issued by pretended curers of all known and many unknown disorders, lead us to the belief that however willing quacks have always been to impose upon the credulous themselves, they have been careful enough to expose the presumption of their rivals; a merciful dispensation of Providence, which has enabled the statements of one rogue to be balanced, and to a certain extent neutralised, by those of another, and so the remedy is found in the disease when at its worst. Had it not been for the attacks made by empirics upon each other throughout the last century, qualified medical men would have stood a very bad chance, and as it is they seem to have often been obliged to join the ranks of the rascals from sheer inability to get a living without pandering to the popular taste for infallible remedies and things generally unknown to the Pharmacopœia. Here is the commencement of an appeal made just prior to the year 1700 by one quack, which consists in a warning against all others of the same profession, and which shows how anxious the writer is for the public benefit, except where his own is immediately concerned:—

#### A CAUTION TO THE UNWARY.

'Tis generally acknowledged throughout all Europe, that no Nation has been so fortunate in producing such eminent Physicians, as this Kingdom of ours; and 'tis as obvious to every Eye, that no Country was ever pestered with so many ignorant Quacks or Empirics. The Enthusiast in Divinity having no sooner acted his Part, and had his *Exit*, but on the same Stage, from his Shop (or some worse Place) enters the Enthusiast in Physicks: yesterday a Taylor, Heelmaker, Barber, Serving Man, Rope Dancer, etc., to-day *per saltum* a learned Doctor, able to instruct Esculapius himself, for he never obliged Mankind yet with a *Panacea*, an universal Pill or Powder that could cure all Diseases, which now every Post can direct you to, though it proves only the Hangman's Remedy for all Diseases by Death. *Pudet hæc opprobria dici*; for shame, my dear Countrymen, reassume your Reasons, and expose not your Bodies and Purses to the handling of such illiterate Fellows, who never had the Education of a Grammar-School, much less of an University.



Nor be ye so irrational as to imagine anything extraordinary (unless it be Ignorance) in a Pair of outlandish Whiskers, tho' he's been so impudent to tell you he has been Physician to 3 Emperours and 9 Kings when in his own Country he durst not give Physick to a Cobbler.

Nor be gulled with another sort of Impostor, who allures you to him with CURE WITHOUT MONEY, but when he once has got you into his Clutches, he handles you as unmercifully as he does unskillfully.

Nor be ye imposed on by the Pretence of any *Herculean* Medicine, that shall with four Doses at 5s. a Dose, cure the most inveterate Complaint, and Distempers not to be eradicated (in the Opinion of the most learned in all Ages) with less than a Renovation of all the Humours in the whole Body.

These and the like Abuses (too numerous here to be mentioned) have induced me to continue this public Way of Information, that you may be honestly dealt with, and perfectly cured, repairing to him, who with God's Blessing on his Studies and 20 Years successful Practice in this City of London hath attained to the easiest and speediest way of curing.

Then follows the puff which this disinterested person gives to his own wares and powers, and if it is to be believed, he certainly proves to demonstration that he is as good as the others are bad.

Although the papers of the early eighteenth century actually teem with the advertisements of quacksalvers, few of the applications to the unwary possess any distinctive features, and those which do are of the grossest possible description. In the *Daily Post* of July 14, 1736, there is a curious testimonial to the abilities of a City practitioner who advertised very considerably about that period. His advertisements all take the form of recommendations from those who have received benefit at his hands and from his medicines, and the one we have chosen will give a fair idea of the others, which in many cases refer to the disorders of the gentler sex:—

THESE are to certify, that I Richard Sandford, Waterman, dwelling in Horsely-down-street, near the Dipping Pond, have a Son, who for a considerable Time was troubled with a *Pain in his Stomach, a Sleepiness and Giddiness*, whereupon I calling to Mind that some Years since my Wife's Mother, betwixt 60 and 70 years of Age, afflicted with a *Palsy or Hemiplegia, or loss of the Use of one Side of her Body*, had been cured by

Mr. JOHN MOORE, Apothecary,

At the Pestle and Mortar in Laurence-Pountney's Lane, the first Great Gates on the Left-Hand from Cannon-street,

I applied to him for Relief of my Son, who after having taken a few of his Worm-Powders, they brought from him a WORM (or INSECT) like a Hog-Louse, with Legs and hairy, or a Kind of Down all over it, and very probably more, but he going to a common Vault they were lost; upon which he is amended as to his former Illnesses, and I desire this may be printed for the Good of others.

Oct. 6, 1735.

Witness

RICHARD SANDFORD.

N.B. The said JOHN MOORE's Worm Medicines and Green-Sickness Powder, are sold at Mrs. Reader's at the Nine Sugar-Loaves, a Chandler's Shop in Hungerford-Market, sealed with his Coat of Arms, being a Cross, with the Words, *John Moore's Worm Powders, &c.*, inscribed round it: And if any are Sold at any place, except at his own House, without that Seal and Inscription, they are Counterfeits.

He sells Byfield's Sal Volatile Oliosum, at 6d. per Ounce.

To be had at the said J. Moore's.

COLUMBARIUM; or The Pigeon-House: Being an Introduction to a Natural History of Tame Pigeons, giving an Account of the several Species known in England, with the Method of Breeding them, their Distempers and Cures.

The two chief Advantages, which a real Acquaintance with Nature brings to our Minds, are first, by instructing our Understandings and gratifying our Curiosities; and next by exciting and cherishing our Devotion.

Boyle's Experimental Philosophy, p. 3.

It is curious how anxious many of the quacks are that they shall not be confounded with their rivals, and their addresses are often given with wonderful exactness. Of this we will add another example, which, though some years later than the one about Baldwin's Gardens, is in no way less distinct. It would seem, from many references in old newspapers, that the term Maypole was used for a certain portion of the Strand long after the shaft itself had been removed:—

IN the Strand, over against the Maypole, on the left Hand coming from Temple-Bar, at the Sign of the Golden Cross, between a Sword Cutlers and a Milliner's Shop, the Sign of the Sugar Loaf and Barber's Pole, within four Doors of the Mitre Tavern: Where you may see a large Red coloured Lanthorn, with Eleven Candles in it; and a white Sign written upon with red Letters DUTCH DOCTOR, Licensed by his most Excellent Majesty: and a long Entry with a Hatch and a Knecker on it. Where you may come in privately, and speak with him, and need no be ashamed, he having not any in his House but himself and his Family.

## MEDICAL CLEANINGS.

An American visitor to Europe thus (in the *Detroit Review of Medicine*) contrasts the scene in an operating theatre of London with a similar spectacle in Paris:—"While on the topic of operations, I cannot refrain from speaking of the great contrast one perceives between the surgeons across the channel and the English and American ones, a contrast, however, which is easily explained when one remembers the temperaments and dispositions of the nations. Until one thoroughly appreciates the French surgeon and the students before whom he has to operate he might easily be inclined to think that he was present at a first operation, for to his eyes the precipitation of the assistants and the constant nervous speech and commands of their master appear like signs of doubt or of ignorance. But when it has been explained to him, that if the surgeon does not continually speak, his audience say of him that he is *embêtant*, and that if he keeps perfectly quiet they consider him nervous and as having *perdu sa tête*, he is capable of looking on with a less prejudiced eye, and of perceiving that the operation ends as quickly and with as good results as if there had not been quite as much clamour about it. The scene is completely different in the English amphitheatre, for here the patient is quietly brought in, a few whispered words pass between the attendants, chloroform is given, and the operation performed with a perfect calm, and it is only after its execution, perhaps, that the surgeon states his reasons for his mode of operation in the case, describes the movements, and finally calls for another patient. Certainly, to us, the latter style appears the more business-like, but I feel confident that the same course of proceeding by a French surgeon would elicit anything but applause from his students."

\* \*

The same writer has lately heard it reported that Mr. Liebreich, who has had control of the ophthalmic department of St. Thomas's Hospital for several years, being dissatisfied with his English experience, is about to leave London to return to Paris. Apparently, adds this authority, it will not be a very sad parting to the English medical world, for he appears not to have succeeded in making more friends here than he did in France or Germany.

\* \*

Dr. Carl W. Luther, a homœopathic physician, died on October 5, at Southwick, near Brighton. The *Homœopathic World* says he was a descendant of the great Martin's brother. The obituary card, which that magazine reprints, finishes with the words *Requiescat in pace*, a form of words generally left to Catholics only. Surely not?

\* \*

Mr. J. E. Burton, L.R.C.P., a correspondent of the *British Medical Journal*, has arrived at a brilliant idea. He proposes that every person practising as a medical man should be compelled to take out an annual license, at a charge, say, of one guinea, and that none but registered medical men should have the power to take out such licenses. The onus of prosecuting unqualified practitioners would then fall on the Inland Revenue officers, and from the alacrity with which they prosecute now whenever they have an opportunity, we might rest assured that quacks and prescribing druggists would soon be as "the light of other days."

\* \*

A French medical journal reports a case of poisoning from smoking tobacco. A young man laid a wager that he would smoke twelve cigars at one sitting. At the eighth he began to suffer; at the ninth he had chills and flushes, which phenomena were still more marked at the tenth. He refused to desist, but



went to his own house, attended by two of his friends. On arrival he had pains in the bowels and vomiting. A physician was called in, but he was unable to arrest the progress of the disease, and the patient died in the night.

\* \* \*

The *Philadelphia Medical Reporter* has been seeking for an exact definition of "pain," and gets this sort of assistance from great authorities:—Pain, says Beclard, is an excess of the sense of touch (*"Physiologie,"* p. 833). It is, says another physiologist, hyperæsthesia of the sensory fibres. The lexicographers seem to have been puzzled with it. Professor Dunglison calls, it "A disagreeable sensation which scarcely admits of definition." The *"Dictionnaire des Sciences Medicales"* gets over it by the convenient statement that to define it is superfluous; while Dr. Gardner, in his *"Medical Dictionary,"* has a still neater device. Turning to pain, we read "Pain, see Dolor." Hunting up Dolor we have the pleasure of finding "Dolor—pain!" Professor Erb, in Ziemssen's *"Cyclopædia,"* (vol. xi. p. 12-15), discusses the point at length, and comes to the conclusion that pain is a new sensation, experienced when excitation of the nerves reaches a certain intensity.

\* \* \*

A monument was unveiled last month in the University of Rome, erected to the honour of Andrea Casalpino, who, the Italian physicians say, was the true discoverer of the circulation of the blood. According to them he demonstrated this great fact at Pisa before the end of the sixteenth century, showing by experiment in 1593 that veins in any part of the body, when tightly bound, swell between their original capillaries and the ligatures, and that when cut they discharge the black venous blood, afterwards the red arterial blood. He taught both at Pisa and at Rome the deductions from these experiments which are now so familiar to us. Casalpino died in 1603, and it was a quarter of a century later when Harvey announced his discovery. Harvey, say the Italians, only added new proof to the already established truth, and they propose to hold a celebration of their own doctor at Pisa once a year on the same day as that on which London honours the memory of Harvey.

\* \* \*

Mr. Sampson Gamgee, F.R.S., in a brief article in the *Lancet*, discusses, though somewhat superficially, the claims of this Cesalpino. He quotes from "Didot's Universal Biography" a statement that "the life of the Arezzo botanist was passed entirely in the silence of his study;" but he intimates a half suspicion (supported by quotations from his work) that Harvey did not acknowledge all the obligations he was under to predecessors. At the same time, he shows that contemporary writers and opponents all reply to Harvey's theory, not to a theory which he had merely supported. Incontestably, he says, Buckle's claim is a valid one—that the discovery of the circulation of the blood was first made perfectly intelligible by Harvey. This dispute will at any rate add a special interest to the next Harveian oration.

\* \* \*

The death of the eminent Dr. Bultkens, the founder and director of the lunatic colony of Gheel, in Belgium, was announced at the end of last month. In this village the insane patients are lodged in private houses, work in the fields, and walk about without any apparent surveillance. This system is said to have been marvellously successful. The director, at any rate, had the reputation of having cured the largest number of patients mentally afflicted of any physician in Europe.

Dr. Bultkens was the special attendant of the unfortunate Princess Charlotte, sister of King Leopold, and once Empress of Mexico. The case of this patient is very curious and is perhaps unique. Dr. Bultkens has always declared her recovery to be beyond hope, but her physical health is remarkably good, and her beauty, it is said, has become more striking since her affliction than before. She apparently never recognises the physical presence of any of the people around her. She never converses with them, never notices any words addressed to herself, but holds constant conversations with beings whom she believes to be present, speaking to them, and apparently listening to their replies. Dr. Bultkens was the only person to whom she would ever speak, and her conversation with him was invariably limited to the phrase, *On se porte bien*,

in reply to his inquiry concerning her health, after which she would turn her back on him and regard him no more.

She gives her orders for dinners, for dresses, or for anything she requires always in writing, depositing the paper always in one place. If her instructions are not exactly fulfilled, she remarks on the defect, always in writing, not with any appearance of anger, but merely as if she considered it a duty to point out the omission.

As an example of the minute attentions which are bestowed upon this royal patient, it has been stated lately that a special number of the *"Almanach de Gotha"* is produced every year expressly for her. In it the Imperial Court of Mexico is included in its place, with portraits of the Emperor and Empress, just as if nothing had occurred since 1867.

\* \* \*

Mediocrity is evidently not the characteristic of all the youths who go in for the medical profession. A few specimens of answers given in the Preliminary Examination of one examining board were quoted by Dr. McCall Anderson in an address given by him on the recent opening of the session of Glasgow University. Mere dull education would be unnecessary to the ingenious youths who could frame answers like the following:—

*Quest.* What is meant by the antiquity of man?—*Ans.* The wickedness of men.

*Quest.* The "Letters of Junius?"—*Ans.* Letters written in the month of June.

*Quest.* The Crusades?—*Ans.* A war against the Roman Catholics during the last century.

*Quest.* The first meridian?—*Ans.* The first hour of the day.

*Quest.* To speak ironically?—*Ans.* To speak about iron.

*Quest.* A Gordian knot?—*Ans.* The arms of the Gordon family.

*Quest.* The Star Chamber?—*Ans.* Place for viewing the stars.

*Quest.* To sit on the Woolsack?—*Ans.* To be seated on a sack of wool.

*Quest.* A solecism?—*Ans.* A book on the sun.

*Quest.* The year of Jubilee?—*Ans.* Leap-year.

We could have appreciated this last answer all the more heartily, says Dr. Anderson, had it emanated from one of the female medical students.

## HEADACHES.

SUBJOINED is a hospital lecture delivered by Dr. A. Smith, at the Bellevue Hospital Medical College, San Francisco. We take the report from the *Western Lancet*.

A headache, when due to nervous disturbance, such as occurs in hysterical or excitable subjects, if associated with plethora, often yields to a saline cathartic. The most agreeable is the solution of citrate of magnesia, and should be given on an empty stomach. In addition, it is well to give one of the bromides combined with valerian. The following prescription I frequently use:—

Sodii bromid .. .. . 3vj.  
Elix. valer. amm. .. .. . 3iv.

M. Sig. 3i. every hour until relieved.

If such nervous headache be associated with anæmia, after relieving the immediate attack with the bromide and valerian prescription, give iron, and give it for weeks, until there is a decided improvement in the patient's condition. Always give the iron after meals. In these anæmic cases it is often advisable to stimulate the heart's action. For this purpose I have found the following useful:—

Amm. muriat .. .. . 3ss.  
Tinct. actæ racemos. .. .. . 3iij.  
Aque .. .. . 3iij.

M. Sig. 3ij. after meals in a wineglass of water.

If there be despondency and depression of spirits, phosphorus, with nux vomica, is a good combination. The unpleasant taste of the phosphorus has been overcome by being made into sugar-coated or gelatine-coated pills. I frequently prescribe a pill containing phosphorus gr.  $\frac{1}{50}$  with ext. nux vomica, gr.  $\frac{1}{8}$  t. i. d., with the happiest results. These pills can be obtained of any reliable druggist. This



despondency is apt to occur in those who have been overworked mentally, or are harassed by business cares, or who suffer great mental anxiety. If, in addition to these symptoms, there be sleeplessness, I employ the following pill:—

Camph. pulv.	..	..	..	..	..	gr. xxv.
Ext. cannab. ind.	..	..	..	..	..	gr. x.
Ext. hyoscyami	..	..	..	..	..	gr. xx.

M. Div. in pill No. x.

Sig. One at night. Repeat in two hours if necessary to produce sleep.

It is important to attend to the general health of the patient. Remove all causes of excitement; encourage exercise in the open air; let the food be simple but nutritious; let the sleeping-room be large and well-ventilated; in short, let the patient be surrounded by the best possible hygienic influences. These general remarks will apply to almost all forms of headache.

#### SICK-HEADACHE.

I usually recognise two forms of sick-headache (so-called), the one neuralgic in character, as hemicrania and trifacial neuralgia, the other a dyspeptic headache. In the neuralgic variety the pain in the head precedes the nausea, while in the dyspeptic variety the pain in the head succeeds the dyspeptic symptoms. In the neuralgic, vomiting does not relieve the pain, while in the dyspeptic an emetic or laxative often removes the pain in the head by removing the cause. In addition to the treatment given in a previous lecture for neuralgic headache, which often occurs at intervals of a few days, or a week or two, sometimes coming on at sunrise and disappearing at sunset, I have good results from the use of guarana, or paullinia serbilla as it is sometimes called. I give it usually in powder, 15 grains every 15 minutes, until six doses have been taken. It is best given in a little sweetened water; and if six doses do not relieve, do not continue it; it will probably not relieve. It is well to give these powders in any headache (not malarial) of long standing and prone to return at certain intervals.

#### MALARIAL HEADACHE.

Malarial poison may produce pain in any portion of the head, but the most frequent locations are the sub-occipital region, the frontal, and on either side (hemicrania). Begin your treatment by the use of quinine. If distinctly periodical, give 10 or 15 grains two or three hours before the expected attack. It may be necessary to push the quinine in divided doses until cinchonism is produced, and kept up for several days, and then gradually diminish the dose. If the pain still continues to recur, and it frequently will, resort to arsenic and belladonna, five-drop doses each of Fowler's solution and tincture belladonna, after meals, increasing the Fowler's one drop each day until oedema arsenicalis is produced. This will seldom fail to give relief.

I have found the following prescription beneficial in a headache dependent on gout:—

Vin. colch. sem.	..	..	..	..	..	3ij.
Lithii bromid	..	..	..	..	..	3ss.
Syr. zingib.	..	..	..	..	..	3ss.
Aq. cinnamonii, q. s. ad.	..	..	..	..	..	3vj.

M. Sig. 3ss. in a tumbler of Vichy water every four hours.

Such patients will be benefited by the regulation of the hygiene, tonics, a partial discontinuance of stimulants, particularly those which have been found by experience to aggravate the gouty symptoms.

It is hardly necessary that I should tell you that the headache of syphilis is more severe at night, and is quite apt to awaken the patient after 12, by its increasing severity. The use of calomel in one-tenth grain doses every hour, for 12 hours immediately preceding the time that it awakens the patient, gives more rapid relief than the ordinary constitutional treatment. The calomel treatment may be continued for two or three days, and then stopped, and iodide of potassium given. I usually begin the iodide in 15-grain doses after meals, and gradually increase it until iodism is produced or irritation of the stomach occurs, provided the symptoms do not yield earlier. It may be necessary to push it to 350 or 400 grains a day before the symptoms yield.

The headache of rheumatism is characterised usually by tenderness of the scalp, which is increased on pressure or motion. Use the mild faradic current on the scalp, and internally the following:—

Potass. iodido	..	..	..	..	..	3iss.
Amm. muriat	..	..	..	..	..	3iss.
Infus. humuli	..	..	..	..	..	3vj.

M. Sig. 3ss. four times a day in a wineglass of water.

In some cases of rheumatic headache, which have not yielded to the above treatment, I have found bromide of ammonia in 20-grain doses every two hours effectual.

There is another form of headache which is of great importance as a symptom of serious disease. The pain in the head may be the first evidence you will obtain that there exists renal disease, and that you really have to deal with uræmic headache. The judicious plan of treatment in such cases has for its object the removal of the abnormal amount of urea from the system. To accomplish this, you may call into action one or all of the three great excretories of the body, the kidneys, the intestines, and the skin. Make the kidneys act if you can; apply dry cups over the region of them, and give internally the following:

Potass. acetat.	..	..	..	..	..	3vj.
Infus. digitalis	..	..	..	..	..	3vj.

M. Sig. 3ss. q. 3 h.

The infusion should be made from fresh English leaves. Give this until the kidneys act freely, if you can make them do it within 24 hours. You cannot always rely on this, however. If the kidneys do not act freely, and the headache is not relieved within 24 hours, give a saline cathartic. A treatment almost domestic, and often very effectual, is to put an ounce of cream-tartar in a quart of water, and have the patient drink this in eight or ten hours. It acts both as a diuretic and cathartic. Do not use hydragogue cathartics unless convulsions are threatened; they are too irritating to the intestinal canal. Some prefer to eliminate the urea by the skin. This can be done by diaphoretics and the hot, moist, or dry air bath. Do not think that you must use diuretics, cathartics, and diaphoretics in all cases of Bright's disease; use them where there is deficient quantity of urinary secretion, and where you have reason to believe urea is accumulating, and that you can relieve the patient by ridding the system of it. There are other causes of headache in Bright's disease which I believe occur independent of the presence of an abnormal amount of urea in the blood, and yet which are dependent on the results of the kidney disease. These causes may be anæmia, neuralgia, oedema of the brain itself, serous effusion into the ventricles, and, in acute Bright's disease, or cerebral congestion in addition to accumulation of urea. Under the last condition if the headache be very severe and convulsions threaten, take blood if the patient's condition will admit of it. Take 12 to 20 ounces, if necessary to relieve distressing symptoms. The best way to take it is by means of wet cups over the region of the kidneys.

If the patient be anæmic, improve the general condition by the use of tonics, good nutritious diet, stimulants, exercise in the open air, &c.

If the headache be dependent on serous effusion into the ventricles, or on cerebral oedema, here too improve the vitiated condition of blood and stimulate the heart and kidneys by potass. acetate and infus. digitalis. There is apt to be with this effusion and oedema general anasarca.

The headache of acute alcoholism, or inebriety, follows a debauch. The first indication is to remove the alcohol from the intestinal canal. For this give of rhubarb and magnesia calcined each half a drachm, then give as follows:—

Spts. amm. aromat.	..	..	..	..	..	3ij.
Tinct. camph.	..	..	..	..	..	3iss.
Tinct. hyoscyami.	..	..	..	..	..	3iiss.
Spts. lav. comp. q. s. ad.	..	..	..	..	..	3ij.

M. Sig. 3j. q. 1 h. until the headache is relieved, and then give capsicum gr. ij. and quinine gr. iij. before each meal for several days. If there be sleeplessness give

Sodii bromid.	..	..	..	..	..	3ss.
Chloral hydrat.	..	..	..	..	..	3iiss.
Syr. aur. cort.	..	..	..	..	..	3ss.
Aqua	..	..	..	..	..	3iiss.

M. Sig. 3ss. at night, repeat in two hours if necessary to produce sleep.

Dyspepsia is a frequent cause of headache.

If there is indigestible food in the stomach, and it has been there some time, give an emetic, as mustard and warm water, or sulphate zinc gr. xv., and remove it. If there is evidence of indigestible food in the alimentary canal beyond the stomach, give gr. xx. of rhubarb and magnesia each, and remove it from the bowels. If the headache be frontal, and the pain is located immediately over the eyes, give dilute nitro-muriatic acid in ten-drop doses, well diluted, after meals. If the pain is located about the roots of the hair, give an alkali before meals, as gr. xx. bicarbonate of soda or magnesia. The dyspeptic headache oftentimes is not confined to these regions, but spreads over the entire head. In such cases I combine an acid with an



alkali, and add to these nux vomica, as in the following prescription:—

Sod. bicarb. .. .. .	3iiss.
Ac. nitro-mur. dil. .. .. .	3ij.
Tinct. nuc. vom. .. .. .	3iiss.
Syr. aurum. cort. .. .. .	3vj.
Aqua, q. s. ad. .. .. .	3vj.

M. Sig. 3ss. after meals in a wine-glass of water.

If there be gastric pain, a mild counter-irritant, as a mustard plaster to the epigastrium, will often relieve the pain in the head as well as the pain in the stomach. If flatulence be a troublesome symptom, give the following:—

Bismuth subcarb. .. .. .	3iiss.
Tiet. nuc. vom. .. .. .	3iiss.
Tinc. card. co. .. .. .	3iv.
Spts. lav. comp. q. s. ad. .. .. .	3iv.

M. Sig. 3ij before meals in a wineglass of water.

If there be constipation, the following pill may be given, once in the morning:—

Aloes pulv. .. .. .	3ss.
Ext. nuc. vom. .. .. .	gr. v.
Ext. belladonna .. .. .	gr. iv.

M. Div. in pil. No. xv.

In some forms of headache associated with stomach indigestion I have found small doses often repeated of tinct. nux vomica effectual. I give a single drop every fifteen minutes, and continue this two or three hours if necessary. In other cases, where the headache comes on soon after a meal and seems to depend on delayed stomach digestion, large doses of pepsin are effectual. Give a half drachm saccharated pepsin in a wine-glass of sherry wine, t. i. d., and let it be taken during meals.

Cerebral congestion as a cause of headache may be divided into two varieties, active and passive. These claim almost directly opposite plans of treatment. In the active variety the patient should be kept in a darkened room, perfectly quiet, cold and evaporating lotions applied to the head. A saline cathartic may be given, and the following prescription:—

Sodii bromid .. .. .	3iiss.
Fl. ext. ergot. .. .. .	3iiss.
Syr. zinzb. .. .. .	3ss.
Aq. aurant. Fler. q. s. ad. .. .. .	3iv.

M. Sig. 3ss. q. 2 h.

If the skin be hot and dry, and the pulse full and rapid, give Fleming's Tinct. Aconit. Rad. gtt. ii. q. 2 h, until the heart's action is sensibly diminished. Sometimes a hot mustard foot-bath will give relief.

The passive congestive variety demands a different mode of treatment. In many cases this variety is found associated with cardiac disease, and most frequently where there is predominant dilatation. Hypertrophy gives rise to the active variety. Improve the condition of the blood by the use of iron, quinine, bitter tonics, alcoholic stimulants, good food, and stimulate the heart's action by the use of the following:—

Tinct. digitalis .. .. .	3iij.
Spts. amm. aromat. .. .. .	3vj.
Spts. lavand. co. .. .. .	3iij.
Syr. simp. q. s. ad. .. .. .	3iij.

M. sig. 3i. q. 4 h.

Cerebral anæmia produces a headache, which is often mistaken for the passive cerebral congestive form. It is often associated with general anæmia, nervous exhaustion, and may occur in heart disease in consequence of enfeebled heart power, such as is met with in enlargement with dilatation, fatty degeneration, and myocarditis. Improve the general condition of the patient, and stimulate heart's action as recommended in the passive cerebral congestive variety. Nitrate of amyl will relieve the immediate headache. Let the patient inhale three to five drops of it on a piece of cotton, placed within one nostril while the other is held closed. When associated with nervous exhaustion, I employ the following:—

Strych. sulph. .. .. .	gr. ss.
Tinct. fe. chlor. .. .. .	3ij.
Glycerinæ .. .. .	3ss.
Infus. gentian q. s. ad. .. .. .	3vj.

M. sig. 3ss. after meals, in a wineglass of water.

A word as to alcoholic stimulants. These are beneficial in headache dependent on cerebral anæmia. Champagne is a specially favourite form, and is much relished by those who suffer from nervous exhaustion. You should use caution in recommending it to such patients, as it may lead to serious results. Give it always as a remedy, and not as a beverage. A safe plan is to recommend brandy, a tablespoonful after each meal, and limit the champagne to one glass, and let it be taken with the dinner.

Cerebral tumours give rise to headache, often severe. In all cases of cerebral tumours give iodide of potassium; for it cannot be safely said that in any given case the tumour does not depend on syphilis, and by administering the remedy you give the patient the benefit of the doubt.

There is reason to believe, too, that patients with cerebral tumours, dependent on other and unknown causes, are benefited by the use of iodide of potassium. I have previously given you directions as to the method of giving the iodide. Sometimes the pain is so severe that you are justified in resorting to opium to relieve it. If there be much sleeplessness, give sleep by the use of the bromide and chloral mixtures.

The headache of cerebral softening may be palliated by opium and rest. Such patients should have the best possible hygienic surroundings. If there be sleeplessness and much irritability of the nervous system, the combination of bromide with chloral is indicated. Ergot has been used for the relief of the headache in these cases, by those having charge of insane asylums, where this condition is frequently met with, and the testimony is in its favour as a valuable remedy. It is usually given in large doses, beginning with 3j. of fl. ext. ter in die, and gradually increasing to 3ss. ter in die.

Almost all cases of increase of temperature of the body above 103° are attended with headache. To relieve it, reduce the temperature according to the plan given in a previous lecture; apply cold and evaporating lotions to the head, and keep the patient free from noise and excitement. A full opiate will often relieve such a headache, save the patient much suffering, and effect favourably the progress of the fever.

The mere mention of worms in the alimentary canal, hemorrhoids, uterine and ovarian disturbance, and optical defects, as causes of headache, will suggest the remedy.

## BAY RUM.

FROM an article on "Bay Essence" in the *Pharmacist*, by Mr. R. Rother, we glean some useful information:—

At present, it can be safely estimated that three-fourths of the bay rum consumed is a domestic imitation, compounded by the pharmacist. Genuine bay rum is said now to be prepared in the West Indies, by distilling rum with the leaves of the bayberry tree. The belief is, however, entertained that no imitation can, in point of fragrance, at all compare with the imported rum. Doubtless the aroma of the rum, added to that of the bayberry leaf, determines a different perfume from that obtained by simply dissolving the bayberry oil in alcohol. It is also highly probable that, owing to the adulterated character of the bay oil as found in commerce, a fair approach to the imported essence is prevented. Owing to some erroneous opinions regarding bay oil, it has been subject to various methods of sophistication, but no dealer has yet resorted to alcohol as an adulterant.

Oil of bay, when pure, mixes with alcohol in all proportions, producing, though, an opalescent solution in whatever proportion the alcohol is used, excepting in great excess, when an apparently clear liquor is obtained. It appears, therefore, that a third body, yet in small amount, is also present. If the pure oil is dissolved in a large volume of alcohol, and water in not too large proportion is added, an opalescent liquid is obtained which cannot be cleared by filtration through paper. Magnesium carbonate added to such a mixture clears it, but at the same time removes the most essential part of the bay oil, in the shape of an insoluble magnesium salt; therefore magnesium carbonate should not be used in this case. Yet, if oil of bay, alcohol and water in the same proportions be used, but compounded by mixing the alcohol and water first and then adding the oil, a clear solution is obtained, in which a minute quantity of fatty matter, aggregated in small lumps, floats on the surface. This solution now filters with great rapidity, and remains permanently bright.

In the preparation of bay essence, many pharmacists add other spices, as pimento and cloves, together with various colouring matters, with a view of imparting a yellowish tint, as, for instance, caramel, sanguinaria, and eucenna; others even add aqueous potash. Imported bay rum has very little, if any, colour when new, but soon gets coloured from the staves of the barrels. Very little imported bay rum that is not coloured can, however, be found, as the precaution is not taken to draw it off in glass when received.



Mr. Rother believes that since bay rum is officinal, but as a genuine and undiluted article is difficult to obtain, except directly from the Custom house, it might be advisable to have an officinal formula for it. He finds the following formula yield a satisfactory product, which, whatever influence the presence of rum may have, is certainly much stronger in aroma than the imported perfume:—

## Take of

Oil of bayberry tree .. .. .	1 fluid ounce.
Jamaica rum .. .. .	1 pint.
Strong alcohol .. .. .	4 pints.
Water .. .. .	3 pints.

Mix the rum, alcohol, and water, then add the oil; mix and filter.

## ON SAFETY MATCHES.\*

THE fact has been known during some years past that the so-called safety matches, which are warranted to ignite "only on the box," can be fired by being rubbed on glass, and as Mr. Preece recently pointed out (*Nature*, vol. xiii. p. 208), on ebonite. I find that they can be ignited by friction against ivory (I used an ivory paper-knife), steel (a steel spatula, somewhat worn), zinc, copper, marble with the polish worn off, and a freshly-cleaved surface of slate.

The match (or two matches together, for the sake of strength) should be held near the tipped end, and then be rubbed with strong friction and with a long sweep upon the solid surface. From two to twelve such sweeps may be required before the match ignites, and the result seems to be due to the conversion of mechanical work into heat sufficient to fire the paste at the end of the match, which, I suppose, consists mainly of potassic chlorate and sulphide of antimony.

After a few rubs the match begins to crackle, and then suddenly bursts into flame. A similar result may be obtained by grinding the chlorate in a mortar with a little sulphur or sulphide.

The readiness with which the match ignites by friction depends greatly on the nature of the surface. Lead is too soft, and tin too smooth. The metals produced by rolling have a sort of skin on the surface, over which the match glides without sufficient friction, but if the surface of zinc be rubbed with sand-paper or with a fine file, it becomes active in firing the match. I noticed that the polish of my ivory paper-knife became worn before it acted well. Nor is it very easy to fire the match on glass. A long sweep repeated about a dozen times with considerable pressure seems to be necessary. The two specimens of sheet copper used by me have a sort of grain which is favourable to the success of the experiment. The copper acted equally well whether the surface was dirty or cleaned with dilute sulphuric acid. After rubbing a match ten or twelve times on zinc, without effect, the same match rubbed on copper immediately took fire.

In the case of slate, lead, tin, and some other surfaces, the composition on the match acts as a polish, and thus renders it unfit for ignition. On the other hand, a finely-cut file removes the composition from the end of the match without igniting it.

I have no doubt that many other surfaces might be found on which the safety matches would ignite with greater or less difficulty. Notwithstanding this, the match is still a safety match, although it does not comply with the conditions asserted twice over on the box. It does not ignite readily on any of the surfaces pointed out, except copper and marble, but it does ignite with wonderful facility when rubbed against the side of the box, an invention so ingenious that a few words of its history may not be out of place here.

About the year 1850 a gentleman entered the laboratory of King's College, London, and drew from his waistcoat pocket a fragment of a rough-looking red solid, and, placing it in the hands of Professor Miller, asked him if he knew what it was. It was handed round among those present, but no one had the slightest idea as to its nature, when, to the astonishment of every one, the gentleman said, "It is phosphorus—amorphous phosphorus, discovered by me, Herr Schrötter, of Vienna."

Up to this time, and indeed for some years later, persons engaged in the manufacture of lucifers were subject to a terrible disease, known in the London hospitals as the "jaw disease;"

necrosis of the lower jaw induced by constantly inhaling the fumes of phosphorous acid escaping from the phosphorus of the paste with which the matches were tipped.

Ordinary matches made with phosphorus were, during many years, dangerous contrivances. They were luminous in the dark, liable to ignition on a warm mantelpiece, poisonous; children have been killed by using them as playthings; and, moreover, they absorbed moisture, and became useless by age.

But the chief inducement in getting rid of ordinary phosphorus and substituting the new variety was to put an end, as far as possible, to the jaw disease. The red, or amorphous phosphorus, gave off no fumes, had no smell, was not poisonous, and the matches made with it were not luminous in the dark; they did not fire on a warm mantelpiece, did not contract damp, and would keep for any length of time. A manufacturer in 1851 sent me several samples of matches made with red phosphorus. I found some of these matches the other day, and they were as active, after twenty-five years, as at first.

But here was a difficulty. When the red phosphorus is brought into contact with potassic chlorate a slight touch is sufficient to produce an explosion, in which the red phosphorus reassumes its ordinary condition. Many attempts were made to form a paste, and many accidents and some deaths occurred in consequence. Prizes and rewards were offered by manufacturers and others for a safe paste, or for some means of using the red instead of the ordinary phosphorus, but without success, so that the patent for the manufacture of red phosphorus, which was secured by Mr. Albright, of Birmingham, in 1851, threatened to be of but little value.

At length the happy idea occurred to a Swedish manufacturer not to attempt to make a paste at all with the red phosphorus, but to make the consumer bring the essential ingredients together in the act of igniting the match.

Mr. Preece's suggestion that the ignition of the matches is due to electricity may be dismissed in the face of the following experiment:—Place a few grains of red phosphorus on a hard surface together with some powder or a crystal of potassic chlorate, when a gentle tap will cause them to burst into a flame.

## THE DECEIT OF APPEARANCES.

AN individual whose coat was buttoned closely to his chin, said chin being covered with a three-days' beard, with a slight hectic flush on his bow-sprit, and a general appearance of having been so pre-occupied for a few days as to have forgotten to take off his clothes at night—an individual of this description was walking down one of the principal streets of Boston very early in the morning, when he suddenly came to a halt before a shop, in the window of which was displayed a large lithographic print. This picture portrayed a solemn man with a long, dark beard. In the right hand was some sort of bottle, and, from the expression of the face of the picture, either the bottle smelt unpleasantly or the party had taken a drink from it which did not agree with his digestion.

To the pedestrian first described the picture was, however, at once symbolical and significant and without hesitation he marched into the store and almost over the porter, who inquired, "Want to see the doctor, sir?"

The seedy gentleman steadied himself, and answered,

"Yes! Doctor, Colonel, General, or wha'ever he calls himself; know 'em all, but forget their titles; 's the ol' barkeep' I want,"—and he plunged into the back room, where the original of the dark-boarded picture in the window, summoned by the frightened servant, presently found him examining with uncertain gaze a row of glass jars, bottles, &c., and was promptly saluted with,—

"On deck, ole fell'; th' ain't many th' boys 'round yet, is there? Jess give us about three inches whiskey straight."

The person thus hilariously saluted drew himself up in a dignified manner, and replied,

"We do not deal in whiskey here, sir, we administer oxygen"—

"All right," said the unabashed caller, "less have some of minister Knox's gin, then; I'm as dry as a dust hole, 'n ain't particular. Jine me, won't you?"

"Sir," said the interrogated one, "this is a place where inhalations"—

\* By C. Tomlinson, in *Nature*.



"Yes, I don't care where in h——l it is either, so long as you hist a bottle over here 'thout any more remarks."

"I tell you," yelled the other party, "this is not a bar-room. It is a doctor's office; we practise inhalation of medicated, super-carbonated oxygen!" and he flung open the door for the exit of the early and unwelcome caller, who muttered,

"What in time d'ye have a picture in the window of a fellow taking a drink for, if you don't keep a bar-room?" and he meandered down the street in search of a more hospitable establishment.—*The Laboratory* (Boston, U. S.).

### A PROFESSIONAL INDIAN POISONER.

THE *Bombay Gazette* reports the apprehension of a professional poisoner, who, by his own confession, has been guilty of 16 murders within the last four years. He is a Mahometan of the Borah class, Kahdur by name, a native of the town of Soonvale in the Zillah of Ramporee, within the native territory of Oojeen, not far from Indore. He is a well-to-do man, about forty years of age, and his father possesses some property in Soonvale. Eleven years and a quarter of his life have been passed in prison, and he gives fair promise to end on the gallows a career begun, it is to be presumed, with many advantages. Almost immediately after his liberation from gaol, in 1872, there began a series of crimes which baffled the police of the Central Provinces and Berar till about 1874, when they ceased. Carts and bullocks started on journeys from Khundwa, Nursingpore, Bholanpore, Pathore, Nandoora, and other places, but never returned. More than once the dead body of the missing driver was found by the side of a lonely path in the jungle, but so far advanced in decomposition as to be totally unrecognisable. These mysterious occurrences, after ceasing for a year, began again early last year. At length it was noticed that Kahdur Borah was the name given by various parties as that of the person who had hired a cart which had disappeared; and this clue being followed out, led to the arrest already mentioned. The prisoner was readily recognised by the relatives of more than one carter whom he had taken away on an ill-fated journey. At the time of the arrest he had arsenic on his person. When the Borah saw that his conviction was clear beyond all hope of escape, he made a clean breast of his crimes, and informed upon two men as his accomplices. Since then he has been rendering the police much assistance, even to the length of pointing out where the bodies of his victims lie buried. According to his confession he took to poisoning as a means of livelihood in 1872. His plan of operation was to go to a town and give out that he wanted a respectable-looking cart to take him to a distant place. He always selected a good cart and good bullocks, the property of a man of a better class, who was likely to carry money about with him, and he made the fatal mistake of giving his correct name at every place he went to. Having started on his pretended journey, he chose some quiet part of the road to administer arsenic to his unsuspecting companion, the driver. The villain then composedly looked on while his victim first complained of pain, then became too ill to drive his cart, and finally lay down on the roadside and died in agony. He then stripped the body of whatsoever valuables there were upon it, and either threw it down in the jungle or buried it under the ground, and taking the dead man's place upon the cart, drove to some town or village where he was not likely to arouse suspicion, and disposed of the turn-out for, say, fifty or sixty rupees. In his confession Kahdur relates the particulars of 13 murders he thus committed in Berar and the Central Provinces, and several of these are cases that have baffled the police for two or three years past. But there are several besides which he has admitted since his confession was taken down. There is considerable excitement wherever he is taken, the inhabitants turning out in numbers to see the fiend who has been working so subtly and so fatally amongst them. The Borah himself is as cool as if he had never done a wrong in his life, and opens up the narrative of his crimes with less emotion than the police detectives he is assisting. One of the men whom he named as accomplices has been arrested. He is a Bunnia, and an old gaol bird, named Heerali. He has confirmed a good deal of his principal's story, and confessed to two murders committed by himself, but there are also great discrepancies between the accounts of the two men.



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, successor to L. de Fontaine-moreau & Co., 4 South Street, Finsbury, London, and at Paris and Brussels.]

Provisional Protection for six months has been granted for the following:—

- 3262. W. Burns, of Glasgow. Improved fittings for casks, jars, or other vessels of earthenware, porcelain, glass, or other material, for containing wine, beer, or other liquids. Dated August 19, 1876.
- 3380. W. Weldon, of Merton, Surrey. Improvements in the means of and apparatus for the manufacture of sulphide of sodium and sulphide of potassium, which apparatus can be applied to the manufacture of black ash. Dated August 28, 1876.
- 3284. W. Weldon, of Merton, Surrey. Improvements in the manufacture of sulphide of sodium and sulphide of potassium, consisting partly in a new method or process and partly in means and appliances for carrying the same into effect. Dated August 28, 1876.
- 3386. W. Weldon, of Merton, Surrey. A new method or process and a new combination of processes and appliances for obtaining from sulphide of sodium and sulphide of potassium aluminate and phosphate of soda or potash and either free sulphur or sulphurous acid. Dated August 28, 1876.
- 3388. W. Weldon, of Merton, Surrey. Improvements in converting sulphide of sodium into carbonate of soda. Dated August 28, 1876.
- 3390. W. Weldon, of Merton, Surrey. An improved combination of processes and apparatus for the manufacture of soda and potash, and the recovery of the sulphur employed therein. Dated August 28, 1876.
- 3395. G. Lockhie, of Buckhurst Hill, Essex. An improved process for preparing farinaceous and other substances as articles of food. Dated August 28, 1876.
- 3523. G. B. Bussey, of Rye Lane, Peckham, Surrey. Improvements in stopping bottles, jars, casks, and other receptacles, and in stoppers and taps for this purpose. Dated September 7, 1876.
- 3535. J. Margotti, of Manchester. Improvements in stoppers for bottles and jars. Dated September 8, 1876.
- 3605. C. M. Jacob, of Paris. Improvements in capsuling or sealing bottles and jars. Dated September 14, 1876.
- 3719. G. D. Mease, of South Shields, Northumberland. Improvements in steam-power furnaces for the manufacture of sulphate of soda and potash, and the calcination of alkalies and other materials. Dated September 22, 1876.
- 3834. J. Holden, of Manchester. Improvements in and applicable to receptacles suitable to contain acids and corrosive liquids. Dated October 4, 1876.
- 3848. J. Mactear, of Glasgow. Improvements in utilising by-products of the soda and potash manufactures. Dated October 5, 1876.

Letters Patent have been granted for the following:—

- 1157. S. S. Lewis, of Boston, United States of America. Improvements in the manufacture of soap. Dated March 17, 1876.
- 1236. T. Cook, of St. Helens, Lancashire. Improvements in apparatus or appliances for compressing chlorides of soda and potassa. Dated March 23, 1876.
- 1278. C. Reimer, of Berlin, Prussia. A new process to obtain aldehyds from phenols by chloroform or chloral and alkalies. Dated March 25, 1876.
- 1334. A. Cooper, of Gloucester Road, Kensington. Improvements in the manufacture and preparation of counter irritants in lieu of ordinary mustard plasters, mustard paper, or other sinapisms. Dated March 29, 1876.
- 1418. H. B. Binho, of the City Road, London. A new kind of bottle with movable bottom. Dated April 1, 1876.
- 1534. N. Fritzner, of Berlin, Prussia. New or improved stopper appliance for bottles. Dated April 11, 1876.
- 1589. J. Hannan, of Edinburgh, North Britain. Improvements in bottles for containing aerated liquids, and in the mode or means of stoppering or closing such bottles. Dated April 13, 1876.
- 1597. J. Hooker, of Upper Thames Street, London. Improvements in the utilisation and aëration of prepared and preserved milk. Dated April 15, 1876.



1680. T. Bowen, of Swansea, Glamorgan. Improvements in apparatus for the concentration of sulphuric acid. Dated April 21, 1876.
1682. H. L. Jones, of Holborn, London. Improvements in solid and liquid disinfectants and deodorisers. Dated April 21, 1876.
2141. J. L. Field, of Broadwater, Sussex. Improvements in drilling or rotatory cutting apparatus suitable for dental operations. Dated May 20, 1876.
1797. S. Walker, of Shipley, Bradford, Yorkshire. Improvements in stoppers for bottles or other similar articles, and in the method of and means for securing the same. Dated April 28, 1876.
2154. R. W. Wallace, of Battersea Park, Surrey. Improved compounds for the manufacture of vessels or apparatus for chemical and metallurgical or similar purposes. Dated May 20, 1876.
3107. W. F. Grier, of Glasgow. A new or improved compound for the preservation of animal and other substances, the same being applicable for other purposes. Dated August 4, 1876.

Specifications published during the month :—

Postage 1*d.* each extra.

1875.

4348. H. Deacon. Manufacture of sulphuric acid. 4*d.*
4352. H. Granel. Stoppers for bottles. 6*d.*
4422. T. A. Warrington and C. Harwood. Apparatus for cleaning or filling bottles, &c. 6*d.*

1876.

274. C. T. Kingzett and M. Zingler. Production of antiseptics and disinfectants. 4*d.*
294. S. Linousin. Medicinal capsules. 6*d.*
307. J. Lewis. Stoppering bottles containing aerated liquids. 4*d.*
473. P. Barrie and W. Samson. Stoppers for bottles. 6*d.*
614. J. Williams. Stoppers and bottles. 2*d.*
628. H. B. Condry. Chemical preparation for bathing, preserving food, &c. 4*d.*
685. T. L. B. Edgcome. Cleansing and drying glass bottles. 4*d.*
686. T. L. B. Edgcome. Cleansing and drying glass bottles. 2*d.*
897. C. Morfit. Condensed food. 4*d.*
909. T. S. Cocking. Manufacture of pills. 2*d.*
979. E. H. Stockwell. Stoppers for flasks and bottles. 2*d.*
1043. J. Margotti. Stoppers for bottles and jars. 2*d.*
1075. N. W. Lobb. Preparation of farinaceous food. 2*d.*
1411. H. J. Cole. Syphon taps for aerated liquid bottles. 4*d.*
2002. E. A. Parnell. Manufacture of arsenic. 4*d.*



#### BANKRUPTS.

- DIGBY, EDWARD T., and STANSFIELD, CHARLES, trading as DIGBY, STANSFIELD & Co., Cloak Lane, wine merchants.
- MAILLIS, EMANUEL ANTONIO, 4 Union Court, Old Broad Street, sponge importer. Oct. 24.

#### LIQUIDATIONS BY ARRANGEMENT OR COMPOSITION.

*Notices of first meetings of creditors have been issued in re the following estates. The dates are those of the "London Gazette" in which the notices first appeared.*

- ANDERSON, MARK FRENCH, 15 Priory Row, Coventry, physician and surgeon. Oct. 13.
- BANKS, EDWARD CUNDELL, Richardson Street, late Low Feversham Street, Middlesborough, prev. Great Smeaton, all Yorks, grocer and druggist. Oct. 18.
- BENNETT, WILLIAM, known as W. A. B. THOMPSON, St. John Street, Hanley, Staffs., medical botanist. Oct. 25.
- BRUNJES, MARTIN, 42 Brook Street, Grosvenor Square, surgeon. Oct. 31.
- DILL, JOHN, Gordon Villa, Chorlton Road, Stretford, doctor of medicine. Oct. 26.
- DOUGLAS, GEORGE BOYCE, Church Street, Little Lever, and Nelson Square, Bolton, M.D. Oct. 26.
- ECKERSLEY, JAMES, trading as ECKERSLEY BROS., Tonge, Lancashire, and 103 Lees Road, Oldham, druggist. Oct. 25.
- EDWARDS, HENRY, 4 Melville Terrace, Woolwich, chemist. Oct. 10.
- GEDDES, WILLIAM, 8 Market Place, Oldham, chemist. Oct. 17.
- HARGROVE, CHARLES WILLIAM, 13 Spring Hill, Birmingham, surgeon. Oct. 9.

- HEALD, BENJAMIN, New Sleaford, Lincolnshire, chemist. Oct. 17.
- HORNCastle, HENRY FARGATE, Sheffield, chemist. Oct. 9.
- JACKSON, JABEZ WILLIAM, Crewe, druggist, oil and seed merchant, and general trader. Oct. 30.
- JESSOP, JOSIAH B., Queen Street, Wolverhampton, formerly Bolsover, chemist. Oct. 24.
- SMITH, WILLIAM, 83 Western Road, Brighton, chemist. Oct. 23.
- STORY, WILLIAM, 30 Great Western Terrace, Westbourne Park, doctor. Nov. 1.
- SWETE, EDWARD HORATIO WALKER, Leamington, doctor. Nov. 2.
- WINTERBOTTOM, JAMES, 13 High Street, Oldham, chemist and druggist. Oct. 12.

#### DIVIDENDS DECLARED.

- JACKSON, JOSIAH (Liq.), Leicester, chemist. 1st and final div., 2½*d.* H. Tarratt, Market Street, Leicester.
- JONES, THOMAS P. (Liq.), Welshpool, Chemist. Div. of 13*s.* 6*d.* F. Roper, 3 Church Street, Welshpool.

#### PARTNERSHIPS DISSOLVED.

- CURTIS & FISHER, Dorking, surgeons.
- HARRIS & Co., Torre Chemical Works, Lower Road, Deptford. September 14.
- HINKLEY & BEARDSALL, Leicester, chemists.
- HUGHES & BANNISTER, Liverpool, chemists.
- HUTCHINSON & WILSON, Sunderland-near-the-Sea, dealers in acids.
- McLIESH, WILLIAM & SON, Ballymacarrett, chemical manufacturers. December 31, 1875. Debts by John McLiesh.
- RICHARDSON & POOLEY, Rochdale, surgeons. September 9. As regards W. E. Richardson. Debts by R. C. M. Pooley.
- RUMSEY & SMITH, Mere, surgeons.
- SMITH, BARKER & GRIFFITHS, Manchester, emery manufacturers. So far as regards Thomas Griffiths.
- TOMLINSON, HAYWARD & BISHOP, Lincoln, chemists. So far as regards William Middlebrook Bishop.
- WELSH, HARLEY & FIELD, Saffron Walden, surgeons. So far as regards Albert Frederick Field.
- WHEELER & Co., Dundas Street, Kingston, Glasgow, chemists, &c. October 2. Debts by A. Turnbull, who continues the business.
- WHIGGLESWORTH & ELLISON, Cleckheaton, Yorks, manufacturing chemists. September 21. Debts by Henry Ellison.

#### Obituary.

- CANN.—September 24, Mr. Charles John Cann, chemist and druggist, of Alma Terrace, Hammersmith. Aged 26 years.
- FARDON.—October 14, at his residence, Garden Cottage, Chelmsford, Thomas Fardon, chemist and druggist, late of Maidstone. Aged 65 years.
- FLETCHER.—October 25, Mr. Jonathan Briggs Fletcher, chemist and druggist, Hampstead. Aged 47 years.
- HAUGH.—October 24, Thomas Haugh, druggist and grocer, of Brampton, Cumberland. Aged 83 years.
- LENT.—September 21, Mr. George Lent, chemist and druggist, Rotherham. Aged 38 years.
- MAYNARD.—October 24, Mr. Henry Robert Maynard, pharmaceutical chemist, Brandou, Suffolk. Aged 52 years.
- NICOL.—September 26, Mr. George Nicol, pharmaceutical chemist, of Wick. Aged 76 years.
- OGILVIE.—September 29, Mr. Geo. Peter Ogilvie, chemist and druggist, of Arbroath. Aged 57 years.
- PEARSON.—October 7, Mr. Edward Clarkson Pearson, chemist and druggist, of Bradford. Aged 39 years.
- PIMLOTT.—October 31, Mr. John Lomas Pimlott, chemist and druggist, Leek, Staffordshire. Aged 35 years.
- RANDALL.—October 3, his 19th birthday, at his father's residence, Basset, Southampton, after three days' illness, Edward Collard Randall, eldest son of William Brodribb Randall.
- THOMAS.—October 22, suddenly, at 37 George Street, Edinburgh, Mr. Evan Thomas, chemist and druggist. Mr. Thomas had been upwards of twelve years principal assistant to Messrs. James Robertson & Co., pharmaceutical chemists, 35 George Street, Edinburgh. Aged 37 years.
- TYLEE.—August 19, Mr. John Palmer Tylee, pharmaceutical chemist, of Bridge Street, Bath.





For particulars of Advertisements, Subscriptions, &c., please refer to the first page of Literary matter. An Index to the Advertisements contained in this issue will be found in the front portion of the Journal.

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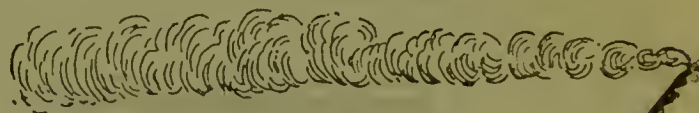
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*Editorial Note.*

## THE ASSOCIATION COMMITTEE AND ITS REPORTS.

THE first decision arrived at by the Executive Committee of the Trade Association, at its first meeting, was to hold its deliberations with closed doors. The report of that meeting which we publish elsewhere has been communicated to us officially by the secretary of the association, and while it probably fairly represents the discussions which took place, it cannot but lack the interest of an independent report, and must suffer from its misfortune of being nothing but a dry official document. If the members of the new association are satisfied with such recitals of the labours of their representatives, it is hardly for us to complain. We shall be saved the expense of reporting for ourselves, and the editorial labour of condensing the reports which we should thus obtain. Considering that the meetings are to be held in a distant town, we might reasonably keep quiet and accept gratefully the page of copy thus politely furnished to us. But we doubt very much if the air of mystery with which the committee would fain invest its proceedings will be appreciated by the trade at large. With nearly nine-tenths of the British chemists and druggists yet outside its circle, the committee might well have desired all the publicity at its command. The association cannot be a permanent success unless



it enrolls a much larger proportion of the trade than it numbers at present; and it will find canvassing a much more serious labour if its deeds are kept quiet than if they were brought into the full light of free discussion.

The Pharmaceutical Council itself, with its brains securely embedded in the tory atmosphere of Bloomsbury Square, has seen that to keep alive an interest in its existence it must supply better reports of its debates than it was the custom aforesaid to give. The license to report in their case is limited, it is true, to their own publication, but theoretically the principle of publicity is admitted. The present system, if not highly creditable to the council as a public body, is at least commercially comprehensible. But the executive committee of the Trade Association has not even this excuse. Their resolution to do their own reporting is, it appears to us, neither politically nor financially sound.

Of course we are aware that many matters must needs be discussed in both of the chambers which it would be very unwise to make public. But if the discretion of those responsible for the publication cannot be trusted, there are always methods available to secure a private deliberation. The members might resolve themselves into special committee, one of them might "espy strangers," or subjects for private consideration might be indicated on the agenda. Anyway, if the society is to progress, or even to be maintained on the scale already sketched out, general interest in the subjects treated must be aroused and kept up; and it is now rather too late in the century to have to prove that an independent press is the most effective engine to spread that interest.

### HELPLESS!

IN accordance with the invitation which we mentioned last month, a deputation from the Trade Defence Association has since waited on the Law and Parliamentary Committee of the Pharmaceutical Council to hear how desirable it was that nothing should be done in regard to the sale of poisons by co-operative stores. This is the report of that important interview which official dignitaries think sufficient to tell the trade:—"The Committee had received a deputation from the Chemists' and Druggists' Trade Association, and had explained to the members thereof why the Council had not considered it advisable to prosecute co-operative stores for the sale of poisons."

Now, let it be remembered that if the Pharmaceutical Council declines to prosecute, no one else can do so; therefore, as matters now stand, there is nothing for us to do but to submit to this monstrous invasion of our rights, however widely it may extend.

There is a leak in our ship. It gets bigger and bigger as we watch it, and we appeal to those in command to do something to save us. With an unconcern which would be heroic, if it were not criminal, our officers calmly fold their arms and say—No; the sea is too rough; let us trust in Providence and be swamped quietly, if such be our destiny.

When Charles VII. told Jean D'arc that if God meant to save France he could do so without her assistance, she told the king that he began at the wrong end: "Aid thyself," said she, "and then Heaven would aid thee." That, she added, was what the archangel Michael had told her.

And so we have waited all these years for that Law and Parliamentary Committee to help us out of the difficulty, and this is the end—helplessness. Well, if that is so, they might at least have told us what their weighty reasons for doing nothing are. We fail to see how the publication of such information could have made matters worse.

It does not need much clairvoyance to read between the lines that the Council is doubtful of success. Of course a case of that kind would be defended, and we know that legal opinion differs as to the result. So much the more need of energy. If

the Pharmaceutical Society would deny itself its little treat of cold coffee and dusty cake at South Kensington next spring, enough money would be saved to try the question, and if the battle should be lost we should know exactly what to ask Parliament for. It can hardly be the desire of our Legislature to make laws, the spirit of which can be broken so easily as it seems that the Pharmacy Act can, and we fully believe that a resolute and united council might soon accomplish this act of simple justice. What one man in his own name may not do, a dozen acting anonymously have no moral right to attempt.

### WHAT THE LORD ADVOCATE KNOWS ABOUT PATENT MEDICINES.

LORD ADVOCATE WATSON, the newly elected representative of the Universities of Glasgow and Aberdeen in Parliament, delivered himself during his candidature of some weighty words in reference to patent medicines. The *British Medical Journal* published the following letter from him, addressed to Dr. John Crombie, in reply to a communication from that gentleman:—

My dear Sir,—I have to thank you for your note of the 16th and accompanying pamphlet. I have no hesitation in stating that, if returned to Parliament, I shall cheerfully use any influence I may have towards suppressing the sale of quack medicines. Of the dangers to which the public are at present exposed from that cause I am well aware. Whilst I should, as at present advised, prefer a remedy by which patents may still be granted to inventors of truly useful and wholesome medicines, I would support the total abolition of such patents if their existence cannot be safely continued without affording protection to quack inventions.

I am, yours faithfully,  
W. WATSON.

The only clear addition to our knowledge to be gained from this document is that the Lord Advocate when he wrote his letter was in a hopeless fog as to the very meaning of the term patent medicines.

### ARTIFICIALLY COLOURED WINES.

THE colouration of wine by means of fuchsine seems to have become quite an industry in France; at any rate, vigorous measures have been taken to root out the falsification. The wine merchants of the south, perceiving the danger to their interests, offer to prosecute at their own expense any seller of this sophisticated wine if sufficient information be given them. The police of Paris have received instructions to employ experts and make close inspection at all wine shops, and we read that at Bayonne two wine merchants, convicted of selling artificially coloured wines have been sentenced each to three months' imprisonment, with fines and costs.

### THE CULTURE OF OUR APPRENTICES.

At the October Preliminary Examination of the Pharmaceutical Society, conducted by the College of Preceptors by papers collected from all parts of the country, out of 235 candidates 120 failed to pass. The following comments made by the examiner are well worth noting:—

*Latin*.—"The Latin translation was generally moderate. I did not notice any candidate's work as being first rate. The grammar was generally pretty good, and in some few cases thoroughly well done.

*Arithmetic*.—"In arithmetic, too, many failed in calculating the value of a given weight at a given price. But few could answer the questions on the metric system properly.

*Grammar*.—"The English grammar was on the whole satisfactory, and much better than the English composition. The spelling was generally correct."



The general impression conveyed by this report is that our youths have not yet advanced far beyond the gentle dulness which some severe critics might perhaps say is the distinguishing mark of their immediate predecessors in the business. Good grammar but weak composition is the inevitable result of a school training which has done its duty conscientiously enough in a sense, but which has failed to educate, to develop the muscles of the mind. The moderate character of the arithmetical attainments is, perhaps, more serious than the weakness in English composition and Latin translation. With a good foundation, more vigour in the art of expressing themselves will come in time, but we look with some fear on the business future of a boy who has no aptitude for mental calculation. Inability to comprehend the metric system of weights and measures indicates a lack of power of application. Any lad with a clear brain ought to make himself master of this system in an hour or two, and we would urge every apprentice to make his footing sure here before he makes a single step further. If he find the task hopeless, let him look out for some more congenial occupation, for chemistry is altogether beyond his grasp. The report presented, though not of the most hopeful character, may be turned to use if it induce a more energetic effort on the part of our future pharmacists to fit themselves more thoroughly for the improved position which the existing generation has prepared for them.

### THE SCIENTIFIC BASIS OF HOMŒOPATHY.

WE had the pleasure last month of listening to a very able address delivered by Dr. Alfred C. Pope, at the London Homœopathic Hospital, the object of which was to show that the homœopathic system of medicine is really a scientific induction, and that it is, therefore, worthy of the investigation of practitioners and students of medicine. The lecture was introductory to a course to which all classes of medical students and practitioners are invited. It may be of some interest if we give a very brief outline of Dr. Pope's arguments.

The aim of the lecturer was not to convince his hearers that homœopathy was true, but simply to show that this system of drug selection is *primâ facie* worthy of serious attention. According to homœopathic professors, as represented by Dr. Pope, every drug (they are a little vague in defining the limit to which drugs may be supposed to extend) has a double specific action always on a special organ or tissue, or special organs or tissues of the body. This double action is a curiously contradictory one. A comparatively large dose of a particular drug will produce a morbid condition in a certain healthy tissue; a comparatively small dose of the same drug will restore to health that same tissue when it is in a morbid condition similar to that which the large dose produced. Such is, briefly, the astounding proposition which Dr. Pope undertakes to prove is scientifically based. We say the theory is astounding, and familiar though it is, any reader who will take the trouble to realise it will agree with us. If true, it is one of the most striking instances of "design" which nature reveals. That every substance to which the term "drug" can be applied acts in a certain manner up to a certain fixed line of dose, and in a precisely contrary manner beyond that line, is something to think about. And the wonder is still further increased when we remember that, according to this teaching, such contrary effect is producible only just when it is wanted, that is when disease has prepared the tissue for the action of the remedy. What, then, is the evidence supporting this notion? We now quote from the lecture:—

Scattered up and down in the literature of medicine since the days of Hippocrates, and more particularly during the last 300

years, are reports of the phenomena producible in healthy persons by the same substances. The collection of a vast number of such cases, their analysis and comparison, requires nothing more than industrious research for its accomplishment. It was from such a comparison, and the analysis of such a collection of cases and facts, that Hahnemann deduced the formula *Similia similibus curantur*. In an essay, published by him in *Hufeland's Journal* in 1796, entitled "Suggestions for ascertaining the Curative Powers of Drugs,"\* and subsequently in his "*Organon der Heilkunst*," and published in 1810, we find the records of cases cured by certain drugs compared with the effects produced by them on healthy persons. Forty-three drugs are examined in this manner. The authorities cited as having observed the phenomena both of disease and of drug action are 300 in number; they are men who in their day and generation were regarded as persons of consideration in medicine. More lately a similar collection has been made by Dr. Dyce Brown, from the works of Trousseau and Pidoux, Pereira, Wood, Waring, Christison, Taylor and Graves. The drugs examined by Dr. Brown are 40 in number. Thirteen of these had previously been studied by Hahnemann, while 27 constitute an addition to those the effects of which, as set forth in the literature of the past, he had examined. We have, then, 70 substances, the curative powers of which, in certain forms of diseases, have been well established, and the pathogenetic properties of which are equally well known.

Throughout the entire series of observations there runs one fact common to the whole—one phenomenon characteristic of all, one which is of the essence of all—viz., that the drug which had been observed to cure a given disease had in every instance been observed to produce a similar morbid condition in a healthy person. By the recognition of this principle all the facts become susceptible of classification.

Surely, gentlemen, the question whether such a deduction as this, drawn as it is from so extensive a series of observations, from facts so independently noted, recorded by men of acknowledged competency, does or does not express a reliable principle for drug selection, is worthy of your calm, deliberate, and unprejudiced attention. And this is all I ask for it.

Though Hahnemann was the first to recognise the importance and breadth of scope of this principle in therapeutics, he was not, as he himself takes care to state, the first who suspected, and indeed more than suspected, its existence. Hippocrates in ancient times, Boulduc, Detharding, Bertholin, Floury, Störck, and Stahl, among more modern writers, have each expressed themselves as being more or less convinced that such a principle did define the curative action of drugs in disease. Hahnemann's great merit, and it is one which will survive long after the memories of his detractors are forgotten, consists in his having thoroughly established the validity of this therapeutic principle, in his having made researches into the action of so large a number of drugs as he did, and in having corroborated his conclusions and experiments by their successful application in practice.

Thus, Dr. Pope contends, the homœopathic principle was arrived at scientifically. It has been justified, he says, by certain crucial tests. In 1831, when Asiatic cholera spread through Europe, Hahnemann, though he had never seen a case, was able to predict remedies, simply because he could guide himself in the selection by a fixed principle. He read of the symptoms, and he directed camphor in the first and copper and veratrum album in the second stages of the disease. These medicines, says Dr. Pope, "became and have ever since remained of greater value, have proved more successful than any other three drugs which have ever been employed." Dr. Pope gave more illustrations of a similar character; then he maintained that many of the so-called therapeutic discoveries of the present day are only bits of homœopathy used empirically, and finally he wound up by urging his auditors to display that "true moral courage" which, despising the opposition of the ignorant, should enable them to fulfil their duty to their profession, to science, and to their consciences!

The peroration, we take leave to consider, was the worst part of

\* "Lesser Writings" of Hahnemann, translated by R. E. Dudgeon, M.D. London: Headland. 1850.



Dr. Pope's very able lecture. People can believe any dogma they please in this age and in this country without any moral courage whatever; and homœopathic practitioners, with their large following of wealthy disciples, would be well advised even among themselves to drop the claptrap about their social martyrdom. With regard to the main argument, one melancholy reflection remains after all Dr. Pope's brilliant logic. Here is this great discovery, a system of healing provided apparently by the Creator himself; here are, at least, seventy medicines ascertained to be the divinely appointed remedies in seventy different diseases; and yet the royal road to health for a sick person still remains uncertain. A decimal fraction or so more in the proportion of cures is all that homœopaths themselves can claim, and their opponents deny even this result. Surely the Frenchman whom we quoted last month was not far wrong when he said the system mattered but little to the patients: "The allopaths kill us, the homœopaths let us die."

#### ON SPUN GLASS.\*

*Glaswolle, Ger.; coton de verre, soie de verre, Fr.*

AT the meeting of the Society of Pharmacy of Paris, on August 2 last, M. Limousin exhibited specimens of the above, which seemed to him capable of useful applications in pharmacy and chemistry. It is used in Germany, but to a larger extent in Austria, for filtering purposes. In appearance it is comparable to silk of the finest and most pliant character. As far as M. Limousin could ascertain, it is obtained by drawing out glass in a state of fusion into fine threads, which are wound round heated metallic cylinders revolving like ordinary spinning wheels for flax or hemp. Bohemian glass only may be used in the process. The threads of spun glass are as fine as the fibres of silk or cotton, which they resemble so much as to make it difficult to believe in their mineral origin; though more easily broken by drawing, they are remarkably flexible. Placed in the throat of a funnel, spun glass is valuable as a filtering medium for nitrate of silver, albumen, collodion, Fehling's solution, strong acids and alkalis, &c. It is preferable to asbestos, because of its greater flexibility and its freedom from the inconvenience of permitting small particles to pass into the filtrate.

#### IODINE AS A REAGENT FOR STARCH.†

By M. Ed. POUCHOT.

IN examining a specimen of butter which was suspected to be adulterated with fecula, the author observed that the sensibility of iodine as a test for starch was considerably interfered with by certain nitrogenised organic matters, notably by albumen. The turbid whey which drains from coagulated milk acts in this respect like white of egg. The following experiments demonstrate this:—If albumen be added to iodide of starch suspended in water the colour disappears. If albumen be added to mucilage of starch, the further addition of water saturated with iodine produces no colouration, unless it be used in very large excess. The albumen probably acts by combining with definite proportions of iodine both before and after the union of the latter with starch. In effect, when a solution of white of egg is poured into one of iodine, the colour of the latter disappears. It is scarcely necessary to add that the further addition of starch is without action as regards colour. Another way of demonstrating the fact is by triturating any fecula in a mortar and incorporating with it a little albumen, then allowing iodine solution to drop upon it. At first each drop produces a blue stain, but this disappears in a few seconds, as it spreads, and so comes in contact with sufficient albumen.

\* *Journ. de Pharm. et de Chim.*, September, 1876, p. 234.

† *Journ. de Pharm. et de Chim.*, September, 1876, p. 221.



AND

#### Literary Notes.

*Food: Some Account of its Sources, Constituents, and Uses.* By A. H. Church, M.A., Professor of Chemistry in the Agricultural College, Cirencester. Pp. 224. Chapman & Hall.

Those who have not yet paid a visit to the East-end branch of the South Kensington Museum at Bethnal Green would do well to take an early opportunity of inspecting the varied and interesting collections of fine art objects, and also the more instructive scientific series illustrating the Chemistry of Food, Animal Products used in the arts and manufactures, Economic Entomology, showing the relations of insects to man, and the collection illustrating the Utilisation of formerly Waste Substances. Those who have already examined these collections will be pleased to learn that they have lately been largely amplified, re-arranged, and fully described by new and explicit labels, under the supervision of Professor Church, Mr. A. Murray, F.L.S., and Mr. P. L. Simmonds.

One reason, however, for our drawing special attention to the Museum at the present time is in consequence of the receipt of the first of a series of scientific manuals published by the Committee of the Council of Education to enable visitors to better understand and appreciate the utility and importance of the collections displayed there. These handbooks, intended not only as guides to the special departments of the Museum, but as useful general text-books on the subjects of which they treat, have sprung from the suggestive ideas of the present able and experienced Director of the South Kensington Museum, Mr. P. C. Owen, C.B., who is making the various museums under the Department of Science and Art what they were originally intended to be—models and examples to be followed by the provinces and foreign countries for the diffusion of practically useful and scientific knowledge among the masses.

Thus much by way of keynote to the work which we desire to notice. Unfortunately our space will not allow us by an exhaustive review to do that justice to Professor Church's book which its merits demand.

We may, however, point out that the plan on which it is prepared is excellent, and the details popularly and simply explained, without losing sight of the scientific information specially intended to be afforded. In this it differs from all former works on the chemistry of food, and assimilates more to the popular and pleasantly written work of Professor Johnston. A brief condensed abstract of some of the subjects treated of will best convey an idea of its contents. It is subdivided into five parts. The first treats of food in general, with the composition of the human body, the uses and classification of food, water, salts, &c., carbon and nitrogenous compounds, and a day's rations. Part II. enters into detail on the vegetable foods, and Part III. describes the animal foods; and here it may be added that, not content with adopting previously published and questionable chemical analyses, Professor Church has been at the pains to test and verify these, and to make fresh ones in a large number of instances. Part IV. deals with the food adjuncts—beverages, condiments, spices and flavourers, pickles and acids, and the narcotic stimulants.

The concluding division of the work is devoted to diets and public dietaries, touching upon food equivalents, and national and ancient foods.



## PETROLEUM.

THE following is from the circular of W. H. Samuel & Co., Liverpool, November 11, 1876:—Since our circular of last month the market has been quiet and slightly irregular, waiting for the renewal "rush" of demand, which is yet delayed, and responding exactly and almost instantaneously to every quiver in the American quotations. The advance in price has caused greatly increased activity in the producing regions, evidenced by the number of new wells opened having increased from 142 in January to 511 in September, with a consequent steady increase in the daily production from 23,000 barrels in January to 26,000 barrels in September. These high prices do not appear to have affected the demand for consumption (except in so far that the increase would probably have been greater in its absence), and we find a total export this year from the United States of 202 millions of gallons, as against 190 millions of gallons same time last year, and a consequent gradual decrease of the stock of crude oil at the wells, which was in September (our latest reliable date) less than 3 millions of barrels, as against 4 millions in May. But this increased export does not seem to have satisfied or to have kept pace with the increased and increasing requirements of the world, for we find that the total visible stock, including all that is afloat, and loading for and stored in Europe, was at the beginning of this month only 700,000 barrels, as against 1,000,000 same time last year, with the four largest consumptive months still to come. Undoubtedly the recent rapid and considerable advance in values is largely attributable to, and accelerated by, the operations of a "combination" in New York, who have only anticipated and translated (to their own exceeding profit) what, by the operation of the natural laws of supply and demand, must and would anyhow have come to pass. The action of such "combinations" is healthy and to be commended, so far as, by rightly interpreting and assisting the operation of natural laws, it hastens the period of recovery to the normal and most-to-be-desired condition of evenly-balanced supply and demand. Such "combinations" hold together and are almost always successful so long as they keep in accord with, and are backed by, these natural laws, and it is only when they attempt to oppose them (wilfully or through mistaken interpretation, or through the intervention of the humanly unforeseeable) that they become pernicious, and break up in disastrous ruin for all concerned. The fluctuations that may occur will be mainly attributable to the struggle between the well owners and the oil refiners for the lion's share of the enormous profits now accruing, as evidenced by the violent fluctuations in the margin between the price of crude and refined oil. The refiners hope by depressing the price of refined oil to be able to induce the well owners to sell their crude oil cheaper, and the well owners, when they know the refiners to be low in stock and pressed for delivery of refined oil, seek to squeeze the highest price obtainable for their crude; and this latter is the oftener successful, as one of the principal refiners has recently acquired a considerable interest in some of the largest of the producing wells. But so long as the present state of supply and demand for the refined oil continues all this will be but subsidiary and will not affect the ultimate further upward movement of prices, which, if our facts are correct, should continue until the slackening of demand as the days lengthen, and the opening up of possibly entirely new sources of supply will put a new (but not necessarily different) phase on the situation. Deterred by the fear of the break up of the "combination," there is not a single barrel afloat or loading for Liverpool, except three cargoes, *via* Cork, with about 7,000 barrels, and as no more (even if now shipped), could arrive here till next year, and as the stock here is under 25,000 barrels, and the deliveries will average over 4,000 barrels per week, we have barely sufficient to supply our consumptive requirements till the end of the year, and as the stock decreases so should, and probably so will, prices advance here. The stock in and afloat and loading for London is 64,000 barrels, with deliveries for consumption which will average about 7,000 barrels per week, showing that this market is practically in the same position as our Liverpool market.

## The Chemists' and Druggists' Trade Association.

### REPORT OF THE FIRST MEETING OF EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee was held at the office of the association, 23 Burlington Chambers, New Street, Birmingham, on Friday, October 20, 1876, at 1 p.m., Mr. S. U. Jones (Leamington), president, in the chair; Mr. Thomas Barclay (Birmingham), vice-president. Present: Messrs. Andrews (London), Arblaster (Birmingham), Brevitt (Wolverhampton), Churchill (Birmingham), Cross (Shrewsbury), Earle (Hull), Fairlie (Glasgow), Greaves (Chesterfield), Greenish (London), Hampson (London), Holdsworth (Birmingham), Jervis (Sheffield), Johnson (Manchester), Laird (Dundee), Mackenzie (Edinburgh), Shaw (Liverpool), G. Walker (Coventry), R. Walker (Birmingham), and the solicitor of the association.

The minutes of the meeting of the General Committee held at Glasgow were read and confirmed.

Several letters were read by the secretary respecting the threatened prosecution of chemists at Nottingham for counter prescribing by a local branch of the Medical Defence Association.

The secretary reported that on September 27 he proceeded to Nottingham, and thoroughly investigated these cases of threatened prosecution. The results were laid before the meeting.

Mr. HAMPSON thought if one general resolution in respect to this matter was passed it would not necessarily apply to the Nottingham cases only, but to cases in general. If they passed a cautious and wise resolution it would be of infinite service to the trade.

Mr. CHURCHILL said they were nearly all agreed that they could not go in for wholesale prescribing, but most of them, he thought, were determined to uphold the right of prescribing in simple cases.

Mr. MACKENZIE explained at considerable length the condition of chemists in Edinburgh, and stated that a great many medical men were annually sent out from the Edinburgh Universities, and they found that every Edinburgh man carried with him an inherent antipathy to dispensing his own medicines.

Mr. FAIRLIE said he did not think there was a town in England or Scotland so situated as Edinburgh: there were very few surgeons in the whole city who kept open shop.

Mr. JERVIS said this was a subject upon which they in Sheffield felt very deeply, and it was a question on which they must protect themselves, or their objects in supporting the association would never be carried out.

Mr. LAIRD said he understood that chemists had a right to prescribe by usage.

Mr. ANDREWS said they were not there to discuss the desirability of prescribing: the broad question was, really, the legality or the illegality of the act.

Mr. BARCLAY proposed the following resolution, and thought it would recommend itself to them all, because they could not carry out literally the desire of some members of the medical profession. It was a very small section of the profession who wished to carry out the view that chemists should not prescribe in any way. Of course there were some medical men who were determined to confine them to the simple compounding of medicines, but they would have the sympathy of the medical men generally if they took up such cases as ought to be defended.

Mr. EARLE said he found that their branch of the Medical Defence Association was not supported by the leading medical men in the town.

It was then moved by Mr. BARCLAY, seconded by Mr. G. WALKER, and unanimously resolved—

That a sub-committee, consisting of Messrs. Earle, Fairlie, Hampson, and Reynolds, together with the officers of the association, be appointed for the purpose of considering and taking such action as they think desirable in any case submitted by its members for legal proceedings.



Moved by Mr. BARCLAY, seconded by Mr. FAIRLIE, and unanimously resolved—

That in any case in which a chemist and druggist is threatened with legal proceedings for recommending simple remedies when required to do so in his own shop, if he be a member, and the case is such as the sub-committee appointed for this purpose approves, this association undertakes to defend him, but at the same time disapproves of the practice of other indiscriminate prescribing.

The following letter was then read by the secretary:—

“Pharmaceutical Society of Great Britain,

“17 Bloomsbury Square, London, Oct. 6, 1876.

“To the Secretary, Chemists' and Druggists' Trade Association.

“SIR,—I have to inform you that the council of this society, at their meeting on the 4th inst., had under their consideration the following resolution passed at the Chemists' and Druggists' Conference, held in Birmingham on July 11 last: ‘That this conference of chemists and druggists urge upon the Pharmaceutical Society the necessity of testing the legality of co-operative traders selling and dispensing poisons.’

“I am instructed to invite the Chemists' and Druggists' Trade Association to appoint a deputation to meet the Law and Parliamentary Committee of the council of this society, in order that the whole case may be fairly explained. In the ordinary course of events the committee will meet again on the evening of the 31st inst., at half-past six, but a special meeting could be convened if that time be considered inconvenient for the proposed conference.

“I am, sir, yours truly,

“ELIAS BREMRIDGE, Secretary.”

Mr. HAMPSON said he felt considerable interest in this matter, as they knew, and he was extremely anxious that this association should do all that lay in its power to bring it to a good issue, and he maintained that they must be resolute. They should take it up as a great and important question, and he did hope they would not be content to allow this question to lie idle.

It was then moved by Mr. FAIRLIE, seconded by Mr. JERVIS, and unanimously resolved—

That in response to the resolution passed by the council of the Pharmaceutical Society, inviting a deputation from this association to meet the members of the Law and Parliamentary Committee of that council, this committee appoints the following gentlemen to consult with them on the subject of co-operative trading in poisons:—The London members of the Executive Committee who are not members of the Pharmaceutical Council, together with Messrs. Barclay, Howden, Jones, Reynolds, and the solicitor of the association, with powers to add to their number.

The secretary was instructed to forward a copy of this resolution to the secretary of the Pharmaceutical Society, and to inform him that the deputation would meet the Law and Parliamentary Committee of the council on the day and at the hour named in his letter of invitation.

Mr. ANDREWS said it was a most important matter to them in London: they felt it most in large towns at present, but he believed it would be felt universally throughout the country.

Mr. BARCLAY strongly urged the necessity of testing in a court of law the question of the legality of co-operative trading in poisons.

The Scotch memorial, and a letter containing a resolution passed at a meeting of Aberdeen chemists supporting the same, was read by the secretary.

Mr. MACKENZIE said, as one who had canvassed in Edinburgh, he could say that it was the unanimous opinion that they should have a Scotch board or executive, because of the difference in the laws of the two countries. It would save much trouble, and would simplify matters.

Mr. FAIRLIE explained their position from a Scotch point of view. With regard to having a Scotch executive, the North British branch of the Pharmaceutical Society had no power, except those relegated to them by the society, and he did not ask that the association should give the Scotch branch any larger powers. He thought the Scotch board should have a Scotch solicitor, as gentlemen there naturally knew more of Scotch law than English solicitors.

Mr. GLAISYER (the solicitor of the association) said he was prepared to advocate the employment of a Scotch solicitor, on the ground that there are gentlemen there who had a higher interest and more practice in these matters than the agent of an English solicitor.

Mr. HAMPSON thought it was extremely desirable that some arrangement should be made, and that the request of the Scotch memorial should be agreed to. Dealing with the Glasgow memorial first, he moved:—

That this committee generally approve of the proposal contained in the memorial presented to the association by chemists resident in Scotland at the trade meeting at Glasgow, asking for a separate branch of the association for Scotland, and appoints a sub-committee, consisting of Messrs. Davison (Glasgow), Fairlie (Glasgow), Kinnimont (Glasgow), Laird (Dundee), Mackenzie (Edinburgh), Macnaught (Greenock), and Strachan (Aberdeen), to draw up a scheme which shall be submitted to the Executive Committee of this association for approval.

This resolution was seconded by Mr. GREAVES, and passed unanimously.

In reference to the Aberdeen letter, it was moved by Mr. HOLDSWORTH, seconded by Mr. FAIRLIE, and unanimously resolved:—

That in answer to the letter from Aberdeen the secretary be instructed to send to Mr. Strachan a copy of the resolution adopted in reference to the Glasgow memorial.

A correspondence was read by the secretary respecting a case of illegal trading under the Pharmacy Act.

A full and earnest discussion took place on the matter, and on the best means of proceeding against parties who were infringing the Act.

It was then moved by Mr. CHURCHILL, seconded by Mr. R. WALKER, and unanimously resolved:—

That the deputation already appointed for the purpose of conferring with the Law and Parliamentary Committee of the Council of the Pharmaceutical Society on the question of co-operative trading be requested to bring the question of illegal trading under the Pharmacy Act generally before it.

The secretary explained to the committee the scheme for organisation which had been adopted at the Glasgow meetings, and it was suggested that alterations might be made in the boundaries of a district if thought desirable.

Mr. BARCLAY explained the system on which canvassing and the work of organisation generally should proceed under the scheme.

It was moved by Mr. EARLE, seconded by Mr. CROSS, and unanimously resolved—

That the president and honorary secretary be requested to act as a sub-committee to arrange with the secretary as to the time and manner of canvassing the districts.

Mr. ANDREWS said he thought it would be advisable that a sub-committee of London members of the committee should be formed to arrange a system for dividing the city into districts and canvassing.

It was then moved by Mr. FAIRLIE, seconded by Mr. LAIRD, and unanimously resolved—

That Mr. Andrews and Mr. Matthews be requested to prepare a scheme for canvassing the City of London, and submit it to the Executive Committee for approval.

A letter was read from a firm of chemists in Ireland, inquiring if it is intended to confine the operations of the association to England and Scotland.

It was, after discussion, moved by Mr. ANDREWS, seconded by Mr. BARCLAY, and unanimously resolved—

That this association earnestly desires to co-operate with the chemists and druggists of Ireland, and should it be shown to the Executive Committee that a feeling favourable to that object prevails they will carefully consider the subject.

The following resolution was moved by Mr. ANDREWS, seconded by Mr. GREENISH, and unanimously resolved—

That Messrs. Barclay, Churchill, Holdsworth, and Southall form a Finance Committee.

A vote of thanks to the president terminated the proceedings.



## Provincial Reports.

### DOVER CHEMISTS' ASSOCIATION.

A MEETING of the members of the trade in Dover was held at the Apollonian Hall on November 8, when it was decided to form an association, holding meetings quarterly, and to which the annual subscription should be five shillings.

Mr. W. H. Cotterell was appointed president, and Mr. J. F. Brown secretary and treasurer for the ensuing year.

It was resolved that the president for the time being should represent Dover and the surrounding district on the general committee of the Chemists' and Druggists' Trade Association, the consent thereto of the members residing in the district having already been obtained.

A general opinion was expressed that the Chemists' and Druggists' Trade Association should act in concert with the Pharmaceutical Society, through whom either legislative or legal action could be most effectually taken.

The compilation of a dispensing and retail price list for the whole of England was also suggested as a subject deserving its attention at the earliest opportunity.

Although the Dover association is only now formally constituted, several previous meetings have been held, at one of which a retail and dispensing price list, on the basis of the Liverpool list, was agreed upon.

### GLASGOW CHEMISTS' AND DRUGGISTS' ASSOCIATION.

#### OPENING MEETING.

THE first meeting of this association was held in Anderson's University, on the 8th inst., Mr. Daniel Frazer, President, in the chair. The minutes of last meeting having been read and adopted, the secretary intimated the receipt of the *Pharmaceutical Journal*, also the ten guinea present of books from the Bell and Hills Fund of the British Pharmaceutical Conference, together with the portrait of Dr. Pereira, Jacob Bell, and the London and Edinburgh Board of Examiners, which had been framed and hung up in the library, and moved that the best thanks of the association be given to the several donors.

The treasurer intimated the receipt of £1. from Mr. Borland, of Kilmarnock, as a donation to the Library Fund, to whom special thanks were also voted. It was also intimated that one of the members of council, viz., Mr. James Macdonald, late of the Glasgow Apothecaries' Company, had died since the annual meeting in May last. The council expressed their great regret, and remarked on the loss the association and the trade generally had sustained in the early demise of one who had been so much esteemed. It was then agreed that Mr. John Fenwick, of Strathbungo, be elected to fill the vacant seat in the council till the end of the year.

The PRESIDENT then delivered the following inaugural address:—

Gentlemen,—The difficulty experienced by most men who sit down to write an "Inaugural Address" will, I suspect, be that of the little man who was asked to hang his hat upon one of the empty pegs he saw stuck along the wall. There were plenty of these, but, alas for him, they were all placed just a "peg" too high for his little arm to reach to. This was my difficulty in choosing a subject for to-night's address. There are plenty of subjects open for discussion by pharmacists, but, alas for me, most of these are beyond my reach; and, were they to have full justice done to them in their treatment, all that are within my reach call for a much ampler leisure for their discussion and elucidation than it has been possible for me to bestow on them at this time. In these circumstances I must throw myself on your kind indulgence while I attempt to give you some sketches of a few of the subjects with which the pharmaceutical world has recently been much exercised. In doing this from my own point of view, some corns will have to be trodden upon, but I hope to tread upon them with as gentle a pressure as may be consistent with the giving of a clear and explicit statement of what my own views of the topics under discussion are.

Before entering upon this discussion I am sure that all present will agree in thinking that our first remarks should be made in regard to the recent meeting of the Pharmaceutical Conference held in our city. That event so overshadows in bulk,

as it outweighs in importance, all other items of our local history as pharmacists, that I feel confident no apology need be offered for my giving to it the place of honour in my address to-night.

The meeting of the Pharmaceutical Conference in Glasgow, and all that that event involved, constitutes an era in the history of our society—that society at whose most cordial invitation it assembled here. With all our heart we sent out that invitation. With all our heart we welcomed the members of the Conference who accepted it and who honoured us with their presence in our midst; and, now that they are gone, and that they and we have returned to their and our wonted occupations, and have all settled down in our own dwelling places at home, I am quite sure that in expressing my own views I am also reflecting yours when I say that with all my heart I look back upon the fifth, sixth, and seventh days of September as the red-letter days of our calendar, and that no similar event is likely to arise that can displace them from that pre-eminence in our memories.

Our expectations were large, but the reality greatly exceeded them. When we nominated such active and energetic men as Messrs. Kinninmont, Davison, Fairlie, and Stanford, to take charge of the arrangements needed for the reception and entertainment of our expected guests, we little knew the strain to which their powers of organisation and entertainment were to be put. Happily for us, however, great though the strain put on their energies was, they proved themselves equal to the occasion, and their efforts, aided by willing and able landlords, and an able and gracious captain, were crowned with success, alike on land, river, loch, and sea.

We had anticipated a possible meeting of 120 or 140, whereas 175 gentlemen entered their names in the visitors' books at the entrance door of the hall of the Royal Hotel—the meeting-place of this year. We thought it possible that 150 or 160 might gather on board the *Eagle* steamer for the trip down the Clyde. We found the number to be nearer 300.

Not only did the numbers attending the Conference exceed our most sanguine anticipations; the weight was in proportion to the bulk. Not only did the London Council send—with the much regretted exceptions of Messrs. Sandford, Hills, and Bottle—its best known men, including its president and vice-president, and its most valued and energetic secretary, but, for the first time since the Pharmaceutical Society was instituted, did it, in deference to the meeting of the Conference here, omit one of its stated monthly meetings. When, in addition to so many members of the present council as favoured us with their presence, men of the mark of Professors Redwood and Atfield, such ex-councillors as Messrs. Stoddart, Groves, Reynolds, and Sutton were also with us, along with such other noted pharmacists and men of science as Messrs. Proctor, Brady, Ekin, Bengel, and Tilden, and literary men such as the editors of the *Pharmaceutical Journal* and of *THE CHEMIST AND DRUGGIST*, no wonder that a meeting with such men gathered under one roof in this northern region was warmly welcomed by us, and that it should have proved, as the saying is, "a complete success." No wonder that some of us, in order to do but bare justice to such visitors, curtailed our night's rest by an hour or two whilst they were amongst us. That the meeting was appreciated by our friends from south of the Tweed was amply evidenced by the addresses of not a few of them in person when there, and by the editors of the *Pharmaceutical Journal* and of *THE CHEMIST AND DRUGGIST* in their respective journals; but, further, I could occupy not a little of your time by reciting the congratulatory terms in which very many friends have since written to myself. Time will not allow of giving more than one of those, and I give it as the first that reached me, and as a fair specimen of the others:—

"We are laid," says the writer of this letter, "under much obligation to all who generously contributed, both in money and able and diligent arrangements, for our comfort, and so promoting the objects of the meeting, the advancement of pharmaceutical science, the recognition of the unity of our interests, and the promotion and establishment of national good will." The writer then concludes thus:—"Your noble city, spacious hotels, commodious meeting-room, swift steamer, beautiful lochs, lofty hills, band and Highlanders, have left impressions not to be soon forgotten."

Here let me say how intensely I myself enjoyed the presence amongst us of very many kind friends whom I meet with so frequently south of the Tweed, and who there so strive to emulate the man "who killed his neighbour by kindness" that sometimes I fear they may succeed, and so spoil what has not



already been spoiled in me. The atmosphere in which I moved during the sitting of the Conference here was to me so akin to that of Bloomsbury Square that had my imagination been only a little less dull than it is I could almost have believed myself transported to that classic ground.

One more sentence before I leave this part of my address. It is to urge as many of my brother pharmacists of Scotland as may find it possible to cross the Tweed on August 14 next, and again—though under a different roof—sit at the feet of Professor Redwood, to listen to his words of kindly advice, of wisdom, and of knowledge that appears to well from him as from a fountain—ever flowing, ever full.

No doubt the journey from this to Plymouth is a long one, but the journey may be broken, routes to it are various, and the places of rest on the way are numerous. We can look in at Edinburgh or Newcastle, York or London, Bath, Bristol or Exeter. Around Plymouth and within an easy distance will be found scenery that will in itself well repay the journey even to us Scotchmen, who think so much of our hills and our lochs. To name no others, the river Dart, with its overhanging woods, the extremely ancient picturesque town of Dartmouth and that of the too notorious one of Totnes, with their tortuous and narrow streets and overhanging houses, have only to be seen to be admired by all who have a love for the antique and the picturesque. I only hope that it may be possible for me to be there myself, and that if so I may see not a few of you beside me.

Though other matters of a more scientific, and of a less political, character than the Trade Defence Association might be named as worthy of a place in our opening address, still I think that, in the special circumstances under which we meet, it is natural that it should come next in our remarks. It was in our midst that it held its second meeting, and that only two months ago, and it is a society in which not a few here and elsewhere are deeply interested, and so I feel sure that no one will quarrel with my dealing with the subject, though they may be quite at issue with me in my estimate of the work of the association itself.

I have not attended any of the meetings of the Trade Association, mainly—though other things also hindered my attendance—because I failed to see an adequate call for its existence. I have a strong fear, also, that its existence, alongside of the present Pharmaceutical Society, may at some time, more or less near, give rise to still further complications and confusion in a trade already more than sufficiently perplexed and troubled about many things very difficult to adjudicate upon.

Of course I am aware that the origin of the society is due to the existence of these very troubles—troubles that so sorely afflict the body pharmaceutic; and I give unbounded credit for singleness of eye to the promoters of the association. It is my happiness to have the personal acquaintance—I think they will even allow me to say the friendship—of at least two of its earliest, warmest, and most able and judicious supporters: I mean Mr. Reynolds, of Leeds, and Mr. Jones, of Leamington, and I will yield to no one in my admiration of both gentlemen at once for their high personal character, their ability, and their purity of motive.

To what, then, it may most fairly be asked, in the society itself, whilst holding this opinion of its supporters, do you object?

First, then, I think that in this case, as in many others, the remedy is worse than the disease it is intended to alleviate, if not to cure. It appears to me to be not over-stating the case to say it is equivalent to the swinging of a huge sledge hammer by a brawny blacksmith to exterminate a fly that had settled upon the brow of a fellow-workman. No doubt the fly would be exterminated, but what of the unhappy victim of its affection?

Plainly stated, the case, as it appears to me, stands thus:—A few—few in relation to the number of pharmacists in our country—cases of actual hardship to some of our members have arisen in the application of recent Acts of Parliament by an unpaid and irresponsible magistracy. The sufferers cried out so lustily, "Police! Police!" that the whole pharmaceutical world has been roused from its slumbers. What, then, are the grievances to which we have been subjected? Here it is that the sale of a "morning tonic" by an unlicensed man is declared to be illegal; there it is the selling of a mixture of limo and sulphur as the very purest of sulphur; and now it is the selling of an effervescing compound under an erroneous name, that

brings us "poor apothecaries" within the meshes of British law.

Well, I do not say that these are matters of trifling moment. I do say that every such case deserves to be looked into. But living as we do—not in a lawless country, where might overrules the right, but in a land where the law reigns paramount, and where it is administered in the highest possible purity—I do say that the remedy for each case of misapplied law, and so of real hardship, lies within easy reach; and that where an aggrieved individual may not himself be able to employ the machinery needed to get justice done to him, there are always—as in the Greenock Citrate of Magnesia Case—brother pharmacists all around who are both willing and able to help; and where the ordinary magistrate or the justice of peace has inflicted an unjust sentence, the process to have the erroneous decision reversed is a very easy and cheap one. So far, then, for cases of misapplied law. My friend Mr. Reynolds, in arguing for the promotion of the trade association as a means of getting justice done to the aggrieved parties in such cases, used this illustration: "A person seized with a sudden illness was not generally the most capable of judging of what was the best remedy in such an emergency. The advice of a friend might often be of extreme value in such a case, and so in this instance." This case was that of the summons issued by the Excise against a number of us for selling Liebig's so-called Liquid Extract of Beef without our possessing a wine license, and the pleading guilty by one of our number. I say the same; go to a doctor. The only thing, then, between us is, what doctor? My friend says, "Go to the Trade Association for advice." I say go to a good lawyer, or to Dr. Elias Bremridge. Instead of going to Drs. Reynolds, or Barclay, or Jones, much as I respect them all, I say go to Dr. Adam Paterson, Dr. Anderson Kirkwood, or Dr. Robertson, and be quite sure that, if the law has been kept by you, and the decision of the justice or magistrate has been contrary to law, you will speedily have the wrong decision reversed. If you don't go direct to the lawyer, be quite sure that in the long run you will have to land at his door. This was the course taken by those of us who were summoned for selling Liebig's Liquid Extract without a wine license. How could any society have done better for us? We had, through ignorance, infringed the law; and, though there were circumstances connected with the mode of raising the prosecution by the authorities of which we had much cause to complain, we had no right to complain of its application to our case, and so we did not appeal against the decision given in it. The result was the exaction of a merely nominal fine—50s.—by the authorities.

So far, then, as to hardships inflicted on the pharmacist either through a misapplication of the law by the authorities, or through its application in an unexpected quarter, as in the case of Liebig's so-called Extract of Beef. It will next be asked, how are you to remedy the other class of grievances inflicted within the law itself? The association is disposed to go to Parliament and have the Act of 1868 amended so as to meet both classes of cases. Those are not the very words employed by the society in its official document, but I am quite sure I have only given a fair statement of the case as put by some of its chief promoters in their published speeches. Let us now look at some of the hardships so much complained of.

The retailing of articles contained in the two poison schedules by co-operative stores is one of these. Well, if that can be proved to be an infringement of the law—and therefore punishable at law—I, for one at least, will go in to-morrow for trying the case. But that is just the difficulty. It is not certain at all that they are infringing the law. In such circumstances I have no right, in my capacity as a councillor of the Pharmaceutical Society, and so representing a public body, to enter the law courts without first counting the costs and seeing how I am to come out of them. I would not do it in my private capacity, and I do not think my action should be different in my public one.

It is also a subject of complaint that patent medicines and drugs generally are sold by grocers and others. Many argue for their sale being restricted to druggists. I maintain this cannot be. No Parliament will venture to enact a law to create such a monopoly in our behalf. Nor, I hold, should it be asked to do so. In my young days the two chief places for procuring patent medicines in Glasgow were an Italian warehouse in Candleriggs and a surgeon's shop in the Trongate. It is also quite well known that in many districts in England booksellers did and still do a large portion of the trade them. But



granting, for the sake of argument, that we might secure a monopoly in the sale of patents and drugs by going to Parliament, I say the law of fair play even is against us. If we restrict others from selling drugs and patents, we must, in all fairness, begin by ourselves giving up the sale of a thousand and one articles other than drugs now sold by druggists all over the kingdom. This, I suspect, will be giving two rich Rolands for one poor Oliver.

The very last thing I have noticed in the direction of seeking to restrict a trade to those already in it by legislative interference was that of certain mineral water makers, so many of whom are, like myself, also druggists. They met in London only the other week, and this motion was gravely put to the meeting:—

*“Items of Business to be Discussed:—*

“1. Whether it would afford better protection to the respectable members of the trade, in securing for them higher prices for goods and the safety of their bottles, by having a tax imposed on each manufacturer, thereby decreasing the present existing opportunities for men of no capital or character entering the trade, and depreciating it, by opening up a reckless and unfair competition, and who also carry on their business with other persons' bottles and cases that are dishonestly obtained?”

The mover of this motion thought that a tax of “from 10% to 50% on each soda water manufacturer would exclude many persons from entering the business,” &c. This was not, however, carried, and I only quote it as a mode of letting us see ourselves as others would see us were we, as druggists, to go to Parliament to seek for a monopoly in the articles we are supposed chiefly to deal in.

If these soda water makers knew that the troubles of druggists only begun when we got tied, neck and heel, by the Act of 1868, they would hesitate long before seeking to add to their present troubles those entailed by the iron shackles of the law. No, the selfish policy that prompted the calling of a meeting to carry such a motion is a short-sighted one, and would not help the interests even of those who thus sought to interfere with the liberty of others.

The next subject I wish to refer to is the keeping of “open shop” by medical men and surgeons. This, even when lawfully done, is what so many in Glasgow consider to be their special grievance. Well, this is not a new offence under the sun. Sir Walter Scott, in his novel of “Rob Roy,” refers to an ancient offender in this very thing. Francis Osbaldiston, after the encounter with his cousin Rashleigh, is made by Sir Walter to say:—

“On my way to Mr. Jarvis's, whose dinner hour was approaching, I stopped at a small unpretending shop, the sign of which intimated the indweller to be Christopher Nielson, surgeon and apothecary. I requested a little boy, who was pounding some stuff in a mortar, that he would procure me an audience of this learned pharmacoplist. He opened the door of the back shop, where I found a lively elderly man, who shook his head incredulously at some idle account I gave him of being wounded accidentally by the button breaking of my antagonist's foil while engaged in a fencing match. When he had applied some lint and somewhat else he thought proper to the trifling wound I had received, he observed, ‘There never was a button on the foil that made this hurt. Ah! Young blood! young blood! But we surgeons are a secret generation. If it were for hot blood, and ill blood, what would become of the two learned faculties.’”—Vol. ii., pp. 116, 117.

To let you know how I look upon some aspects of this question, I will here quote a letter written by myself in December, 1868, at the suggestion of Robert Dalglish, Esq., then one of the M.P.'s for Glasgow, and to whom a number of our leading medical men had complained of the Pharmacy Act of 1868 as it then stood:—

*“THE NEW PHARMACY ACT.*

*“To the Editor of the ‘Glasgow Herald.’*

“Sir,—We are by no means surprised at the tone adopted by ‘Chirurgicus’ when writing in your paper of to-day in regard to the operation of the Pharmacy Act passed in the late session of Parliament.

“The evil he so justly complains of calls for immediate rectification, and it will doubtless receive it. So far as known to us—and we believe our information on the subject to be substantially correct—there was nothing farther from the wish of the

chief promoters of the Act—the Pharmaceutical Society of Great Britain—than to hamper the action of the very large body of medical practitioners throughout the country who are also dealers in drugs. As originally framed, and as sent to the House of Lords by the House of Commons, there was no such restrictive clause as the one prohibiting all parties in Scotland but pharmaceutical chemists, or such chemists and druggists as may now register themselves under it, from dealing in drugs and poisons. On the face of it, such a restriction would be a manifest absurdity. One of the main objects in carrying this Act was to secure the better education of the dispensers of medicine throughout the country, but it never was imagined that a higher standard of education was to be insisted upon in the case of the dispenser than in that of the prescriber.

“The evil complained of arose, we believe, by hurriedly transposing one word for another during the last stages of the bill, and it is quite understood amongst the pharmaceutical chemists themselves that they, in their corporate capacity, shall, on the opening of Parliament, make application for the amendment of the restrictive clause in question.

“To us it is quite clear that in thinly populated districts of the country the public must either get their drugs from the necessarily educated medical practitioners or from the not necessarily educated grocer or general dealer, as such districts are incapable of supporting purely drug businesses. It surely admits of no debate which of these should have the preference.

*“We are, &c.,*

*“December 9, 1868.*

*“FRAZER & GREEN.”*

Regarding the matters referred to in this letter I ask—if medical men at that time, before the shoe began to pinch, had sufficient influence with the Government to not only get the Pharmacy Act of 1868 amended in their favour, but to get it held in abeyance by the authority of the Lord Advocate, as they did, till the obnoxious clause was repealed—what possible hope can any one have of Parliament, at our instance, or at that of the Trade Association, again re-enacting such a clause? Here again, I say, even if we could succeed in getting it, we ought not to ask for such a monopoly. How stands the case? Do not we find, all the country over, in small towns, as well as in the largest ones, members of the Pharmaceutical Society itself exhibiting on one side of their shop the much honoured diploma of the society, while on the other side of it are displayed all the garish paraphernalia of the wine merchant? Only the other day I saw, in a large Scottish town, the lower half of a large window wholly covered with the ordinary olive colour oil paint—so usual in spirit dealers—and in huge gilt letters the words—“Agent for W. & A. Gilbey, wine importers and distillers,” and in small letters the name of the agent—we shall say, “John Blank, Pharmaceutical Chemist”—printed at the bottom of the pane.

I am far from complaining of this. This is a land of liberty. Teas, wines, cigars, stationery, photographs, &c., are regularly dealt in by some of the most respectable members of the trade, as a means of eking out a livelihood that otherwise might be of the scantiest proportions. In short, if the druggist cannot earn a sufficient income in a country village or town without supplementing it by dealing in such articles as I have named, and in a hundred others equally remote from any connection with drugs, even should the articles be—as I but lately saw in the premises of an old fellow-councillor in the south of England—terra cotta vases, statuary, &c., then, by all means, continue to deal in them. But I say, do to others in this thing as you do by yourselves. As you cannot live by merely dealing in drugs, pure and simple, no more can the country surgeon live by merely feeling pulses and prescribing. They, like ourselves, have to live, and as the supply of them, as of us, is generally above the demand, to make both ends meet, they naturally enough add the selling of the medicines prescribed to the prescribing itself. Let, they say, the surgeon, when he has it, invest his money in an array of bottles, not quite empty, till he can dispense with them as a means of supplementing his income. Indeed, as in many villages and towns, a surgeon pure, or a druggist pure, cannot be maintained, I hold that it is for the advantage of the public that the surgeon should keep “open shop.” The doctor can do the whole work of the druggist, but the druggist cannot do the whole work of the doctor.

But, while I say so much on the one side, I go as far as any one here in condemning as unwarranted a wholesale rush into our business by medical men in towns such as our own, where there is ample scope for the display of their energies



in their own proper field, and where there is certainly no lack of efficient druggists. They ought to aim at taking a higher social position than is compatible, with their continuing to keep "open shop." I need not say how utterly I condemn those medical men who lend their names, as it is believed not a few do, to needy outcasts of the Pharmaceutical Society—her rejected candidates—that, under such a covering, they may carry on a business in every true sense illegitimate. This is a scandal of the deepest character, and cannot be too strongly condemned, or too soon put down, could the arm of the Pharmaceutical Society only find a means of reaching them. Two more grievances of us poor pharmacists, much discussed of late, have to be named, each in a sentence or two.

**Exemption of chemists and druggists from serving on juries.** Well, there is no such exemption that I know of in Scotland. Nor do I see any strong reason for our being so exempt. Certain I am that the evil is not so urgent a one as to call for its being made one of the proximate causes for getting up a society all over the land.

**Counter Prescribing.** Much was being made of threatened proceedings in this matter in Nottingham, but happily those have collapsed. On this subject I simply repeat what I said at the Conference in September. No law in the world can prohibit John Brown from proscribing to John Smith on the street or in the Exchange. So we need not fear the enforcement of an old, or the enactment of a new law to interfere with the just privileges of the druggist who does not traverse the well recognised use and wont boundary line that lies between his special work and that of the medical man. I have seen the rough, soiled hand of an Irish labourer engaged in the delicate operation of extracting a mote from underneath the eyelid of his fellow labourer, planted up against the wall of their common shed. Would any surgeon in the world venture to bring the kindly operator "to book" for such an interference with his vested rights? This is a subject that, I hold, should not cause one hour's uneasiness to anyone of us who, honestly seeks to attend to his own business, and to leave to others the care of theirs.

Having at such great length spoken of the grievances, to protect us from which is the main purport of the Trade Association, it is more than time to grapple, as best I may, with the grounds on which its leading promoters vindicate their support of it. In brief, and in plain terms, those are substantially that the Pharmaceutical Society, either from a defective constitution or from an ineffective administration of the constitution it at present enjoys, has not in the past been able, and is not in the future expected to be able, to afford that protection in the prosecution of their trade by chemists and druggists that the exigencies of the case require. A main reason given for this inability, or unwillingness, on the part of the Pharmaceutical Society to prevent or to remedy the evils I have already enumerated is, that "it only reaches the fringe of the trade," and therefore it is "important to have an organisation representing the whole body" (Mr. Barclay, at Glasgow meeting).

Be it so. But whose fault is it that it is so? Where is the remedy? I maintain that it is to be found in making the Pharmaceutical Society not only representative of the trade, but to embrace the trade in its entire length and breadth. Let all the present outsiders who are really legitimate chemists and druggists join the society. It is, however, said that many of these cannot afford to pay a guinea a year to enable them to do so. I fear this may be true of too many of our brethren, but surely it is not so of the vast majority of them?

Then when you have joined the society, take a deeper interest in the proceedings of its council, and of its annual meeting, than you have been wont to do, and, if the council does not represent your views make it do so. You have the whole matter in your own hands. A more popularly elected body never sat. You can change the face of the council once every year, by turning out 14 of the old and by voting 14 new men in, if you but so will it. The law is at your back here, if it will not help you in all the directions some would seek its aid in.

Then, too, will the Pharmaceutical Society, when embracing the whole, or the vast bulk of the trade, be able to go to Parliament, as it is proposed by the Trade Association by-and-by to do, to seek an amendment of the Act of 1868, with some prospect of being listened to. I, too, like the association, would like to see the said Act considerably amended, though I suspect in a manner very much in an opposite direction from what I think it wants.

But be that as it may, sure I am of this, that if the Act is to

be amended it ought to be done at the instance of the existing legally constituted society. But I also add this—that if either society, or both together, seek to advance our trade interests at the expense of those of the general public, ours will go to the wall, and those of the public will be preserved, and that by any Government that may be approached on the subject—this is a subject in which in these days, whatever it may have been at one time, "Whig and Tory a' agree."

There is, however, a still wider, deeper objection remaining to be urged against the Trade Association, and that is to the very constitution of the association itself. I object to it as a step in that reactionary policy that has been manifested of late in too many directions. I mean a recurrence to the seeking and enacting of protective laws—laws intended to benefit class rather than national interests. In this is involved a departure from that freedom of trade that I hold to be not only sound in principle, but to be, in the long run at least, by much the wisest course to pursue, even by those seeking no higher aims than their own aggrandisement. This is, I hold, the shortest, surest road to that "success in business" at which all aim, and so properly aim at.

But some may say—What has this to do with the Trade Society? Very directly has it to do with it. The outstanding, ostensible aim of the association is not only to protect members of the trade that may be exposed to vexatious and unjust prosecutions in the carrying on of their business, but to extend that protection by prohibiting, by legal enactment, the grocer, the co-operative stores, and others, from dealing in patent medicines, &c. What is this but seeking an extension of the monopoly already granted to us for the sale of the scheduled poisons?

This is just what the farmers and the landowners of this country fought so hard for in seeking to maintain the old Corn Laws, or against the farmers of America and of the Continent, who, unlike us in this narrow island of ours, grew more corn than their own countrymen could consume. I need hardly tell even the youngest here how the folly of this opposition has now been demonstrated—by the greatly increased prosperity of the British farmer, and the quite enormously enhanced value of land—so that tenant and landlord have alike benefited by the abolition of the old Protection Laws, while you and I get the benefit in a greatly cheapened loaf. So much, I hold, for the grand principles of equity, as between man and man, and between nation and nation, as a basis on which to rest our legislation.

Having exhausted all I have to say in regard to the principles on which the Trade Association is based, let me in closing acknowledge the kindly feeling exhibited by its leaders to the Pharmaceutical Society. I do not want to single out names. Suffice it to say that without exception their cordiality and friendship towards it have left nothing in that direction to be desired. Manifestly, and beyond all doubt, they wish nothing but good will to it. Several of the association's more prominent supporters have said that if they thought it was to be antagonistic, or other than helpful to the Pharmaceutical Society, they would retire from its membership. That they are thoroughly sincere in this expression of friendship there can be no possible doubt.

But if the association is to go on, and to maintain a separate existence, as doubtless it is, how long will it be possible to maintain this cordiality and warmth of friendship throughout its borders?

Who would be so cruel as to hint to that happy, bright young couple, on the eve of their marriage, that before many years—it may be before many months—their present hours of bliss will be exchanged for hours of the bitterest possible grief, and possibly of separation?

As I have somewhere read, little harm can come of the protrusion of the jagged pikes of the wheel circling in mid-air, but let the minutest tooth of an interlocked bit of machinery, bit of a watch, or of a locomotive, get out of place, then there is a wrench and a dislocation that throws the whole machinery out of gear. So is it with the two societies on which we have been treating. They have too many things in common, are much too nearly allied in their *personnel* and in their objects long to walk together without a jar. Questions are most certain to arise of which different views will be taken by the representatives of each, and then comes the question, Which is to yield?

No; let the two really become one. Let them enter into the marriage relations now, and, becoming one, and with one governing and a truly representative head, the whole body, fitly joined together, will move on sweetly and without a jar.



Now it only remains that I apologise for the great length and unfinished character of this address, and to thank you most heartily, as I most sincerely do, for the patience with which you have listened to remarks with which I am well aware many here do not sympathise. But as I always insist on having full liberty of thought to myself, I not only do not grudge it others, but my whole desire is that every one—not only here in this little world of ours, but in the larger world of politics outside of us—should be “left to the freedom of his own will,” without landlord, master, or would-be representative daring by word or deed, by bribe or threat, to interfere with his holding and expressing his opinion on any and every question before the country.

At the close of the address, which was frequently applauded in course of delivery, Mr. FAIRLIE (Secretary) proposed a hearty vote of thanks to the President for his racy, interesting, and humorous address. He said that he could not agree with Mr. Frazer on very many of the points touched upon, and had time permitted he would have been disposed to criticise, perhaps pretty severely, some of the conclusions Mr. Frazer had come to. He could not help admiring, however, the ability of the paper, and was grateful to the President for having stated his views on the all-important subject of the Trade Association, because it was just by interchange of thought and opinion that a proper understanding was often come to. He therefore, with the greatest cordiality, proposed that the members award the President their best thanks for his address.

Mr. KINNINMONT, in supporting the motion, said he had not much fear of any antagonism arising between the Trade Association and the Pharmaceutical Society, otherwise he would not have joined it. He knew from personal experience that there was work for both, and his only regret was that the great bulk of the trade seemed to hold aloof from all associations.

The vote of thanks was then given with acclamation.

It was afterwards arranged that the council should consider the propriety of having either a conversazione or a supper in place of the annual festival.

It was announced that 25 members had joined the tutorial class and 15 had come forward to the chemistry class, and that both classes were now in full operation.

This was all the business of importance.

#### HALIFAX AND DISTRICT CHEMISTS' AND DRUGGISTS' ASSOCIATION.

This association held its annual meeting on October 12, 1876, Mr. Robert Brook, president, in the chair. The following gentlemen, the nominations of a previous committee meeting, were elected officers of the association for the coming year:—President, Mr. R. Brook; vice-presidents, Messrs. Dyer and Jessop; treasurer, Mr. Councillor Brierley; hon. sec., Mr. B. Shaw; committee, Messrs. Stott, Farr, Hebden, Swires, and Blade; librarian, Mr. Brook.

Having expressed his thanks for the honour of re-election, the president delivered an address, which was warmly received, and has since been printed.

The first part of his address was an earnest advocacy of early closing. The Halifax Association had done much in this direction, but the president feared there might be a tendency to relax their efforts to keep well abreast of the early closing movement, and to let slip the many benefits that we have received from it, and he wished, therefore, to stir the members up to a lively remembrance of what they stood committed to. For some time past legislation on the subject has been threatened, and much as he objected to too much meddling with trade by Parliament, he would not regret to see a compulsory closing Act, so valuable would be the benefits received from it.

Mr. Brook then proceeded to comment on the formation of the Trade Defence Association. He said:—

One of the most remarkable circumstances in connection with pharmacy during the year has been the formation of a Trade Defence Association, with head-quarters at Birmingham. An organisation of this kind—one in which we should have confidence, and might look up to for guidance and advice—has been a long-felt want to most outside the charmed circle of the Pharmaceutical Council. I commend it to your favourable consideration, and hope that by a large increase of members and subscriptions to the Defence Fund it may become unto us as a

parent society, strong in attack and powerful in defence of trade rights and interests. And I think we can very well afford to treat with indifference the sneers of the journal, the soreness of some members of the council, and the comments made by some London chemists. These gentlemen no doubt fully understand the nature and business of a druggist's establishment in town, but are just as ignorant of the nature of those that are carried on in the provinces. And this is just the point where the council has failed. I give them all the credit that is their due for the educational and scientific successes they have achieved, but with regard to trade matters they either cannot or will not perceive the difference between town and country experience in pharmacy.

And whilst commending the new association to your consideration, let me not forget to remind you of the claims our own older association has upon your attention and support. Probably no one now present can call to mind any period within the last 25 years when a more pressing claim could have been put forth. We do not know for certain what is looming in the future, but we do know this, that we are threatened with troubles and trials in all directions. The Inland Revenue authorities have given us a hint that their officers are going to look sharp after us in the matter of quinine wine; they are harassing us with regard to methylated preparations for outward use and liquid extract of meat in a most absurd manner. We are to be visited by the inspectors under the Food and Drug Adulteration Act, which, after being so long a dead letter in the town, is now to be enforced. The Medical Defence Association tells us plainly they will prosecute when they can get hold of a case, for counter-prescribing, under the Apothecaries Act, which said Act specially contains a clause exempting chemists from prosecution. More still, barristers tell us that the poisons in the second schedule of the Pharmacy Act ought to be registered, which if enforced will prove a most serious affair to the trade. And to crown all and to make our cup of misery full to overflowing, we are threatened with another Poisons Bill next session. I say, then, this is a time when we should call in our reserve forces, and putting shoulder to shoulder, closing in our ranks, present a bold front on behalf of trade interests. For we must remember that, however conscientiously we may desire to do what is right and honest, we never know what is in store for us. And whether it be the decision of a superior or a county court judge, the vagaries of county or borough magistrates, or, worse still, the remarks of coroners, and the absurdities and contradictions of analysts, nearly all seem ignorant or strongly biased against our trade. Notice, too, with what eagerness a doctor, when he thinks he has a case against us either with regard to the sale of poison or counter-prescribing, rushes into print and thinks to crush us at once. And the press is in no way backward in following up the attack, and leaders soon appear, nearly always displaying any amount of prejudice and ignorance, and in some paltry cases exemplifying the couplet of the poet,—

The Ocean into tempest tossed  
To waft a feather, or to drown a fly.

The annual report was read, and printed with the president's address.

Arrangements were afterwards made for the annual dinner, and guests were selected for invitation.

A resolution was passed recognising the peculiar appropriateness and value of a gift of books, herbarium, and cabinet constituting the scientific library of the late Chemists' Assistants' and Apprentices' Association, which had been handed over to this society.

#### HULL CHEMISTS' ASSOCIATION.

The annual meeting of the above association was held on Thursday, October 26, at the Cross Keys Hotel, the president in the chair.

The ordinary business having been gone through, the secretary read the report of the committee, which alluded to the Conference held at Birmingham in July, when the Trade Defence Association was formed, which gives promise of being of very great advantage to the trade. Three gentlemen attended from this association, and rendered practical service there. The treasurer's balance sheet showed a small balance in hand.

An alteration in one of the rules was proposed by the president, by which a solicitor is elected at the annual meeting.

A ballot was then taken for the office bearers for the ensuing year, when Mr. C. B. Bell was re-elected president; Mr. W. Staning, vice-president; Mr. B. M. Stoakes, secretary and



treasurer; Messrs. Myers, Earle, Oldham, and W. Hammond, the committee; and Dr. A. K. Rollitt, solicitor.

Votes of thanks were cordially passed to the past officers and the auditors for the services they had rendered.

On October 18 the winter session of the chemical class in connection with this association was commenced at the New Laboratory, Royal Chambers, under the superintendence of Mr. James Baynes, jun., F.C.S. Mr. C. B. Bell, president of the association, occupied the chair, and Mr. H. T. Parson delivered an inaugural address to the students.

## IRELAND.

### PHARMACEUTICAL SOCIETY OF IRELAND.

THE monthly meeting of the council of the above society was held at the College of Physicians, Kildare Street, Dublin, on Wednesday, November 1, Sir D. J. Corrigan in the chair. The following were present:—Dr. A. Smith, vice-president; Mr. William Allen, Dr. Collins, Mr. William Hayes, Mr. E. M. Hodgson, Mr. J. T. Holmes, Dr. Leet, Mr. W. R. Pring, and Professor Tichborne.

On the motion of Mr. J. C. C. Payne it was unanimously resolved:—

That a committee of the council of the Pharmaceutical Society be appointed to consider how far it is practicable to provide means for the education of pharmaceutical students, and to report to the council.

Proposed by Dr. A. Smith, seconded by Mr. King, and resolved:—

1. That any member of the society desiring to become a candidate for election on the council be requested to give a fortnight's notice to the registrar of his intention, such notice to be inserted in the programme of the annual meeting.

2. That a member, intending to retire from the council be requested to give a fortnight's notice.

Proposed by Dr. A. Smith, seconded by Mr. Holmes, and resolved:—

1. That in addition to the names of the outgoing members in the papers for the election of council at each annual meeting, the number of attendances of each member at the meetings of the council during the past year shall be inserted.

2. That the registrar be directed to make out a complete list, in alphabetical order, to be called the "Register of Pharmaceutical Chemists for Ireland," in the form set forth in the schedule to the Pharmacy Act (Ireland), 1875.

3. That a calendar of the Pharmaceutical Society of Ireland be printed, containing an almanac, showing the days appointed for meetings of the council, for examinations, and for the annual meeting of the society; the Pharmacy Act (Ireland) 1875; the Poisons Bill (Ireland); a copy of the regulations; and an alphabetical list of the members of the society in three columns—(1) the name; (2) the address; (3) the date of the election.

4. That 250 copies of the register and of the calendar be printed for publication in January, 1877.

Proposed by Mr. Holmes and seconded by Professor Tichborne:—

That the railway expenses of members of council residing at a distance be defrayed out of the funds of the society.

The motion, which was strongly opposed by Mr. Hodgson and supported by the President, after considerable discussion, was withdrawn.

The following pharmaceutical chemists were admitted to membership:—

Arthur Henry Pring, Plough Buildings, Belfast.  
William Cochrane Dobbin, 45 North Street, Belfast.  
John George Boileau, 91 Bride Street, Dublin.  
Thomas James M'Adam, 43 High Street, Omagh.  
David Boyd, 49 Laburnum Place, Belfast.  
John Watters, 26 Patrick Street, Kilkenny.  
Thomas M'Cullagh, 46 Mary Street, Dublin.  
John Marischal Diack, 9 Richmond Avenue, Fairview.  
Alexander Elliott Doran, 1 Goldsmith Terrace, Bray.  
James Hartford, 92 Bride Street, Dublin.  
Alexander Thomson, 92 Bride Street, Dublin.  
David Hennessy Tweedie, King Street, Newry.

The treasurer's report at the annual meeting was very satisfactory, showing nearly 300*l.* to the credit of the society.

### CHEMISTS' AND DRUGGISTS' ASSOCIATION OF IRELAND.

THE annual meeting of this association was held at the rooms of the association, 172 Great Brunswick Street, on Monday, October 30, Mr. E. M. Hodgson, president, in the chair. There was a fair attendance of members. The treasurer's report was very satisfactory, showing a balance in hand amounting to over 70*l.* after all liabilities had been discharged. The principal business before the meeting was to decide upon the desirability or otherwise of continuing the operations of the society.

The PRESIDENT said that at a committee meeting held a few days ago, after mature deliberation, the committee were unanimously of opinion that the society should continue in operation for another year, and that the classes should be continued for the purpose of assisting those members who were not yet qualified as pharmaceutical chemists in their studies.

Mr. HODGSON remarked that there could be no question about the advantage of the classes to students preparing for the pharmaceutical examinations. This was evidenced by the large number of students of the classes who had been successful.

After some further remarks, in which the President said that the active members of the society had worked with equal energy for the attainment of the object of the society's formation, namely the establishment of a pharmaceutical society for Ireland,

Mr. BOYD proposed, and Mr. HARTFORD seconded, the following resolution, which was carried unanimously:—

That the society continue its operations for another year, and that the classes be continued.

The following were unanimously elected officers and committee for the year:—President, E. M. Hodgson, Esq.; vice-president, Professor Tichborne; hon. treasurer, Stanley Oldham, Esq.; hon. secretary, Wm. Hayes, Esq.; assistant secretary, J. O'Brien, Esq.; committee, T. Boyd, P. T. Birmingham, T. C. F. Froedman, J. Goodwin, J. Greenfield, G. Grindley, J. T. Holmes, and R. Simpson, Esqrs. R. Simpson and C. Johnston, Esqrs., were appointed auditors.

The following are the classes:—

Pharmaceutical and General Chemistry, conducted by Professor Tichborne. This course will be of a practical nature, the society having voted a considerable sum for the purchase of necessary apparatus, &c.

Pharmacy and Materia Medica, conducted by Drs. Auchenlick and Gunn.

The fee for the entire course of the above is fixed at 2*l.* 2*s.*

There will also be instruction in classics, &c., under the guidance of T. Lyons, Esq., C.E., T.C.D.

The following circular has been forwarded to all Irish pharmaceutical chemists on the register. We hope to give a report of the meeting in our next issue:—

DEAR SIR,—From conversations I have had with several pharmaceutical chemists, there appears to be a desire for some united action for the purpose of seeing that our rights are not infringed, and it only requires someone to take the matter up.

As I have always taken a deep interest in pharmaceutical matters I have undertaken the duty of suggesting the formation of a Pharmaceutical Defence Association.

The formation of such a society I feel to be a necessity, as I believe I am in a position to say that the majority of the council of the Pharmaceutical Society is averse to its becoming a prosecuting body.

Other matters such as the arrangement of prices might also come within the province of the association.

I request your attendance at a meeting to take place on Monday, the 13th inst., at the Molesworth Hall, Molesworth Street, at 8 p.m. In case you are unable to attend I shall be glad to know if you are disposed to join the movement.

30 Upper Baggot Street, Dublin.

November 8, 1876.

Yours faithfully,

J. T. HOLMES.

### LEEDS CHEMISTS' ASSOCIATION.

THE session for 1876-77 of this association was inaugurated on October 15 by a tea at the Assembly Room, Queen's Hotel, when nearly seventy gentlemen connected with pharmacy in Leeds spent a very agreeable evening together.

One new member and six associates were added to the ranks of the association, and in addition to the addresses reported below, the proceedings were enlivened by a few choice songs.



In the course of a brief address the president, Mr. E. YEWDALE, referred to the danger occasioned by the stringent provisions of the "Sale of Food and Drugs Act," illustrating his remarks by reference to the reports of cases which have come before the courts during the past year.

Urging the claims of this association to the support of the trade, he showed in what manner it endeavours to promote the interests of the members and associates. He reviewed the events of the past year immediately affecting the drug business, and drew attention to the Trade Association, suggesting that the vexed question of prescribing by chemists might be far more easily settled at a meeting of representatives from that association, the Medical Defence Association, and the Pharmaceutical Society.

Referring to Sir William Frazer's notice of motion to amend the "Sale of Poisons Act," he remarked that this alone showed good reason why the Trade Association should be supported. He had the pleasure to announce that Mr. Haydon, the secretary, had kindly come over from Birmingham to attend that meeting, and would lay the objects of the association before them.

Mr. HAYDON then gave a spirited address, in which he sketched the history and objects of his association. He made especial reference to the threatened prosecutions for counter-prescribing at Nottingham, detailing the results of his visit.

An animated discussion, taken part in by Messrs. F. Reynolds, Milestone, Iredale, Stead, Ward, and Clapham, followed, and, ultimately, the following resolution, proposed by Mr. Ward and seconded by Mr. Clapham, was passed *nem. con.*:—That this meeting learns with satisfaction that such a trade association of chemists and druggists as that described by Mr. Haydon is formed for defending the rights of the trade, and pledges itself to support the association to the utmost of its ability.

Mr. BROWN, one of the delegates from the Leeds Chemists' Association to the meeting of the British Pharmaceutical Conference at Glasgow, gave a short *résumé* of that meeting and its accessories. It was the first time he had attended one of these meetings, but with the many pleasant memories of his visit—the pleasure of meeting so many gentlemen of similar tastes, and engaged in similar pursuits, over the breakfast table each morning, the courtesy, hospitality, and evident pleasure exhibited by the Scottish chemists in entertaining their southern friends; the excursion down the Clyde, and other social enjoyments, combined with the intellectual entertainment of the conference itself—still crowding upon his mind, he indulged the hope of attending many others in the future. Referring to the papers read, he thought they had been so well reported and so ably criticised elsewhere that anything he could say about them would be superfluous. The president's address had been condemned as being too cautious, but he thought that great allowances should be made to a man holding the public position which the Professor did, in handling subjects of such delicacy. He had been struck with the ability and critical acumen displayed by some of the younger members of the Conference, and believed there would be no lack of talent in the "coming men" of pharmacy. The method adopted of reading the papers *seriatim* had a rather narcotic effect: he would prefer their being discussed as read, when probably the discussion might be more largely entered into.

Votes of thanks to the chairman (proposed by Mr. Richard Reynolds, who entered the meeting at a late hour), and to the gentlemen who contributed the music, were carried by acclamation.

#### LIVERPOOL CHEMISTS' ASSOCIATION.

The first general meeting (twenty-eighth session) was held at the Royal Institution, Colquitt Street, October 12, 1876. The president, Mr. A. H. Mason, F.C.S., in the chair.

After the minutes of the previous meeting had been read and signed, the honorary secretary announced the list of officers for the session:—President, Mr. A. H. Mason, F.C.S.; Vice-President, Mr. Joseph Woodcock; Council, Messrs. J. Abraham, J. T. Armstrong, F.C.S., E. Davies, F.C.S., Charles Jones, Martin Murphy, F.C.S., T. W. Parnell, F.C.S., A. Redford, and J. Shaw; Hon. Treasurer, Mr. R. Sumner, 50 Lord Street; Hon. Sec., Mr. T. Williams, F.C.S., 23 Lord Street.

The donations received during the recess were announced, and the thanks of the association unanimously accorded to the donors.

Messrs. Conroy, Sumner, Bevan, Hughes, and Longshaw

were elected members; Messrs. Evans, Ellis, and Taylor associates.

The president then delivered his inaugural address.

Having alluded briefly to the scientific progress which the Liverpool Chemists' Association had made since its foundation twenty-seven years ago, Mr. Mason again suggested some change in their title, so as to indicate the scientific character of their body. He said perhaps the substitution of the word "society" for "association" would accomplish the desired result. The president then proceeded to give a *résumé* of the pharmaceutical chemistry of the past year, a considerable part of his address consisting of an abstract of the more scientific paper read at the Glasgow Pharmaceutical Conference. Omitting most of those sections which are familiar to those readers interested, we select the following from Mr. Mason's address:—

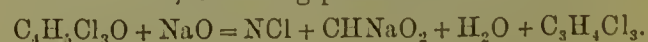
On the subject of opium derivatives, after reviewing the records of Dr. Wright's experiments, Mr. Mason said:—

Of course you are aware that the object of these investigations is to endeavour to find a method of building up the constituents of the natural alkaloids by synthesis, and thus produce morphine artificially, and it is believed that ultimately success will follow. Meanwhile we must all admire the persevering energy with which Messrs. Beckett, Wright, and others are labouring to accomplish this result.

In a paper which Mr. David Brown, F.C.S., read to the Conference at Glasgow, he announced his discovery of the presence of free acetic acid in opium, and he has kindly enabled me to exhibit to you a quantity that he has extracted. He also confirms by independent investigations the statement made by Dr. Flückiger in 1869, regarding the presence of a member of the pectin series in opium.

There is a general tendency to the supposition that natural alkaloids will supersede the administration of crude drugs, and we, perhaps, have no more formidable instance of the necessity of a uniform standard in the administration of therapeutic agents, such as the use of alkaloids would secure, than the drug opium. The variable percentage of morphia to be found in the tincture, extract and liquid galenical Pharmacopœial preparations was demonstrated by Mr. Dott in a communication read at Glasgow; and whilst I would with some reserve advocate the administration of active principles wherever it can be shown that their effects are identical, it is necessary to add that care should be taken that these bases are absolutely pure, otherwise the same objection will be present—for instance, morphia might not be entirely free from codeia, in which case its potency would be modified. A resinoid, such as podophyllin, might be reduced by admixture with the powdered root. Of course these constitute frauds, but unfortunately some foreign competitors are not too scrupulous in this matter. This leads me to ask your consideration of an hypothesis which may not be unreasonable. It is known that in some instances, take opium and the cinchonas as examples, the crude drugs have a specific therapeutic action; they yield different alkaloids in different proportions in different samples, whereas the total amount of alkaloids may be with slight deviation of the same percentage. It has been shown that these different alkaloids produce modified effects from the principal one. Is it fair to assume that nature has not had time to develop these alkaloids when the crude substance is gathered. For instance, one poppy capsule may be in a more matured state than another when tapped, and will not the statement that our new Indian cinchona plantations only yield the inferior alkaloids, but that it is supposed that age will develop the more formidable properties, help to substantiate the hypothesis? Of course we must not overlook nature's assistance in the quality of the soil and the climate: it is only fair to add that I have not any practical experience to bring to bear upon the question.

*Butyl-Chloral*.—Kramer and Pinner, in the course of their researches on the substance commonly called croton-chloral, have ascertained that it contains two more atoms of hydrogen than was supposed, and that it is in fact butyl-chloral ( $C_4H_9Cl_3O$ ). When soda or another alkali is mixed with it, it undergoes decomposition, chloride of sodium, formate of soda, and dichlorallylene being produced—



Regarding the administration of butyl-chloral, Dr. Liebreich says that at first he tried an alcoholic solution, but he has found that, after long standing, some change takes place which greatly impairs its action. He now prescribes it combined with gly-



ceriue. You will perhaps remember that in a paper I read to you three sessions ago on this substance I advocated the use of glyceriue as a vehielo for its administration.

Chloral hydrate maintains its position as a valuable hypnotic, the demand has become stationary, and large continental factories which were constructed for its manufacture have now arranged for the production of chloroform from this substance to a large extent: the chloroform is reported to be absolutely free from chlorine compounds. Reference to the manufacture of chloroform in this country with alcohol and methylic alcohol calls my attention to the fact that there is not any chemical test to detect the difference. Of course the resulting product is chloroform of exactly the same chemical composition ( $C_2HCl_3$ ), but it is stated that the administration of the alcoholic chloroform is attended with greater safety than chloroform from methylic alcohol. How can this be? Surely it is imaginary, and if so a large amount of money is thrown away in its use. It may be argued that in studying economy here I am treading on tender ground, and that in the administration of a substance like chloroform absolute purity is of such importance that price is no object; but surely a desire to prove what appears to be an anomaly is reasonable—chemistry has failed hitherto.

Professor Andrews has communicated to the Royal Society more of his elaborate researches proving the remarkable continuity of the liquid and gaseous states of matter under varied conditions of pressure and temperature, and has succeeded in converting liquid sulphurous anhydride into that curious intermediate state which is neither liquid nor gaseous.

Mr. W. H. Hatcher, F.C.S., in experimenting on the setting points of mixtures of the fatty acids with one another and with various other fatty substances, found that they generally differed to a considerable extent from those obtained by calculation. In a communication to the Chemical Society, March 16, 1876, he called attention to some curious points about the solidification of fatty mixtures, which are at present difficult to comprehend. He suggested the application of photography to solve the mystery, and has kindly given me an opportunity to exhibit to you this evening the series of beautiful photographs of the crystalline structure of mixtures of palmitic and stearic acid which he has prepared. He will shortly announce the results of his further investigation, to which I hope to call your attention on a future occasion.

Time does not permit of my entering into the chemical investigations of commercial interest, but Newland's application of sulphate of alumina to beetroot sugar, by which the sweet principle is retained, and the application of vanadium salts in the production of pure aniline black are worthy of note; and, coming nearer home, the year has perhaps demonstrated the success of Hargreave's process for making salt cake direct— $SO_2 + \text{air} + \text{steam over NaCl}$ .

The president next spoke of the Loan Exhibition of Scientific Instruments, and proceeded from this to discuss the duty of England to provide national opportunities for original research.

May we not look (he said) to the ancient Universities of England, and suggest that they should identify themselves more with the science of chemistry than they have done in the past, and offer facilities for the chemical student such as he specially requires. The foundation, out of the enormous resources of Oxford and Cambridge, of a college where science should be the special feature of the course, and in which the chemical element should be strong, would be a proceeding fraught with very great consequences, and would be beneficial to all. For, on the one hand, the university life would not be broken up, and those links would be maintained which unite all departments of learning with one another; and, on the other, there can be little doubt that those ancient seats of learning would in turn derive new lustre from those on whom they set their seal and impress.

Already throughout the country several educational centres are striving to supply the demand for scientific instruction, and unless Oxford and Cambridge wish to be entirely set aside in this competition they ought to bestir themselves to remedy this defect in their educational course. Failing this, and if it should continue to be the case that practically only the sons of the rich can be admitted, there will be left no alternative to us but to found other colleges—such as Owens College—elsewhere, which will provide what we so much require, and what the wants of the time demand. A start has been made in Liverpool in this matter, and I trust the scheme suggested will ultimately prove successful.

At the conclusion of the address, a lengthy discussion took place, and on the motion of the vice-president, Mr. J. Woodcock, seconded by Mr. Shaw, and supported by Messrs. Fingland, Armstrong, and Davies, a unanimous vote of thanks was accorded to the President, who, in returning thanks, spoke of the prospects of the present session, after which the meeting closed.

The second general meeting was held on October 26, the president in the chair.

Messrs. G. H. Damsell and T. A. Wood were elected members, and Mr. J. E. Tipper an associate.

The meeting was devoted to miscellaneous communications.

Mr. J. T. Armstrong, F.C.S., read a short paper "On Incrustation of Boilers."

Mr. Thomas Garside, F.C.S., "On the presence of Platinum in Aluminium."

Subjects of geological and chemical interest were brought forward by Mr. Thomas Williams, F.C.S., and Mr. E. F. Morten. Discussions followed the communications, and after a unanimous vote of thanks to the contributors the meeting closed.

#### MANCHESTER CHEMISTS' AND DRUGGISTS' ASSOCIATION AND SCHOOL OF PHARMACY.

THE eighth annual meeting of the members of this association took place at their rooms, 37 Blackfriars Street, on Thursday evening, October 12, Mr. Mumbray in the chair.

The secretary (Mr. F. Baden Benger) read the reports.

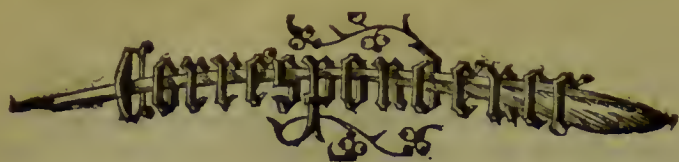
The council's report stated, in reference to the school, that it was gratifying to observe the increasing number of entries, and the hope might be entertained that it would eventually be self-supporting. Such a condition was, in the opinion of the council, the only satisfactory one, and its attainment would be the best evidence that the executive of the association had been right in asking, and the Pharmaceutical Council wise, as well as generous, in promptly rendering assistance during the establishment of the school. It is intended to hold the ordinary winter meetings of members and associates in the Memorial Hall, Albert Square, and to provide tea. It is hoped that this course will ensure a larger attendance, and afford better opportunities for friendly intercourse amongst members and associates. Due notice of these will be issued by the secretary. The income of the association derived from annual subscriptions has slightly diminished this year, and the treasurer's report shows that the balance due to him at the last annual meeting has increased. Under these circumstances the council see no alternative but to reduce the expenditure, and they propose to effect this by giving up one of the rooms at Blackfriars Street. The council are more willing to adopt this course, as neither the classes nor the winter meetings will in future be held in that building, and one room will afford all the accommodation required. The council regret to state that the very small number of students who use the reading room in the evening does not warrant it in continuing to incur the expense of nightly attendance, &c. Students may obtain the keys at any time by applying to the secretary as heretofore; the valuable reference library, specimens, &c., will always therefore be at the command of those connected with the association. Since the formation of this association in 1868, 568 members and associates have been connected with it—many of these being assistants. Most of the leading members of the trade in the district have subscribed regularly.

Mr. Siebold, in reply to the chairman, said that he was very pleased with the attendance at his three courses of lectures just commenced. Already 60 entries had been made—viz., chemistry, 23; materia medica and pharmacy, 21; analytical chemistry, 16. This was a larger number than last year, and did not include the botanical students, whose course would not commence till after Christmas.

The following names were then read as proposed officers for the ensuing session, and these gentlemen were unanimously elected:—President, Mr. W. Scott Brown; vice-presidents, Mr. J. T. Slugg, F.R.A.S., Mr. W. Wilkinson; treasurer, Mr. George S. Woolley; hon. secretaries, Mr. F. Baden Benger, F.C.S., Mr. Hermann Woolley; other members of council, Messrs. Barnaby, Blain, Botham, Fisher, Hargreaves, Hughes, Kay, Mumbray, Payno, Robinson, and Slack.

The usual vote of thanks to the retiring officers, and to the chairman, brought the meeting to a close.





## GERMAN AND ENGLISH PHARMACY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

(Translation.)

DEAR SIR,—In the October number of THE CHEMIST AND DRUGGIST I observe a paragraph entitled "A German Opinion of the Trade Association," in which, supported by remarks taken from the *Pharmaceutische Zeitung*, the German Pharmaceutical Revisions Commission and the English public analysts and their doings are compared. Any comparison of this kind must be a lame one. That, among the rest, there are incapable public analysts we have often enough read in the English trade journals, while every German apothecary knows well enough that there are occasionally to be found pharmaceutical revisions commissioners who follow too straitly the letter of the law; but I should much like to see the amazement of an English professional brother tradesman if a pharmaceutical revisions commission, which only exceptionally has to carry out "unjust and oppressive regulations," should suddenly and without any previous notice appear in his shop and proceed to turn over and investigate everything found therein. Not only all his wares, but even the arrangement, the general display, and in short the whole conduct of his business, are subjected to the critical eyes of the revisors. Statements such as those put forward in the article quoted can only serve on your side of the Channel to induce erroneous views of German pharmacy. It is absolutely false to say that "the English druggist is indeed subject to more strict control than his continental brother" if continental means German. I hope with all my heart that the Chemists' Defence Association may work most advantageously for English pharmacy, and that it may make a bold front against unjust public analysts; but I must decidedly protest against any parallel in this respect between the German and English pharmaceutical government.

I trust you will find space in your next number for these few lines, and remain, sir,

Yours faithfully,

DR. CARL SCHACHT.

Berlin: October 19, 1876.

[Dr. Schacht's official position in connection with pharmacy in Germany, and his known interest in the progress of pharmacy in England, command the highest respect and consideration for any statements he may have to make on these subjects, and we gladly insert his letter. We may, however, point out that Dr. Schacht's strictures apply, not to ourselves, but to the *Pharmaceutische Zeitung*, which institutes the comparison he so strongly condemns. The statement that "the English druggist is indeed subject to more strict control than his continental brother," and which Dr. Schacht characterises as utterly false, is translated almost *verbatim et literatim* from the publication referred to, and, Dr. Schacht's objection notwithstanding, we believe is in the main correct. It is true that the control exercised among us is indirect and not formulated, but "the insidious provisions of the Adulteration Act" admit possibilities of injustice such as we cannot conceive of under the German regulations; at all events, we have heard of no German Chemists' Defence Association, having for its object the amending or abrogation of these regulations.—ED. CHEMIST AND DRUGGIST.]

mittee of the Trade Association at Birmingham for their prompt action in responding to the request made to them to investigate the conditions under which the recently threatened prosecutions of the Nottingham Medical Association had their origin. The attendance on the spot of their energetic secretary in so prompt and efficient a manner is, I feel, an event deserving a prompt and hearty acknowledgment, and whatever turn future events may take I think this action in the present matter cannot do other than merit the esteem and support of the trade at large.

I am, yours obediently,

PHARM. CHEMIST.

Nottingham: November 6, 1876.

## COUNTER PRESCRIBING.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—May I ask through your invaluable journal if those gentlemen in the Pharmaceutical Council who have such a decided objection against protecting its members against unjust and vexatious prosecutions know anything at all about the interests of the trade in general. In my humble opinion they are selfish, self-opinionated, and unworthy of the position they hold: they not only hinder, but try to embarrass the Trade Association (of which I am a member) when down-right action is necessary. Then let the Trade Association take independent action, without fear or trembling: right must lead to victory, and in this instance it surely will. The members of the council ought to bear in mind that country trade differs entirely from London trade. At the latter place, especially in some parts, exorbitant prices can be obtained; they also receive a fair share of dispensing every day. Not so in provincial towns; surgeons and physicians alike dispense for themselves, or keep some errand boy to do it, and always look upon the poor chemist with a jealous eye, as well as with a grasping hand. The retail part is squandered right and left: grocers, bakers, toy dealers, costermongers, and the like, enjoy the privilege of retailing drugs and domestic medicines to some very considerable extent, and without interference. So much for the Act (1868). In fact, in my own immediate neighbourhood domestic medicines are sold (in addition to those already mentioned) by shoemakers with the greatest impunity. Patent medicines are kept by grocers without end and count. Then surely, after the above undeniable statements, it is high time for the Defence Association to begin to concentrate its forces for the purpose of defending our rights and emoluments. Mr. Schacht would do well to learn charity. If he can boast of being so circumstanced that he requires no one to defend him, it is not a sufficient reason why others do not. All have not been blessed alike. If he can fare sumptuously every day, the entire trade do not care to pick up the crumbs which might happen to fall from his table. Therefore it behoves us to seek for food and help elsewhere, rather than rely upon Mr. Schacht's benevolence. The council sought for legislation; they got it, yet they never once tried to protect trade interests, nor yet protect its members. The new association appears to be a bugbear to them; it has pierced them to the very core; their pride has had to humble itself to common sense, and justly so, too. Are the few like Mr. Schacht to rule 14,000? Certainly not. A few words, and I have done. If the public at large prefer obtaining their ordinary wants from respectable chemists, why should they be prohibited? Chemists are quite willing and capable of being held responsible for all they do, and why in the name of common sense have they made such a fuss about educating chemists if they are not to be allowed to make use of that knowledge which they must be in possession of? If dispensing is withheld, as I have asserted it is, by surgeons dispensing themselves, retailing squandered right and left, and indulged in by all, and we are not to give an ordinary draught across the counter, the sooner the farce of an examination is banished the better. If surgeons have responsibilities, so have we; if they are protected, so ought we to be; if they are to have justice, chemists ought not to be denied it; if surgeons consider their batch of unqualified assistants competent enough to conduct a portion of their practice, surely a chemist is competent to give a tonic mixture and the like across his counter? Is a

## SERVICES OF THE TRADE DEFENCE ASSOCIATION.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—Allow me, through the columns of your widely read journal, to make known to the trade at large the obligation we chemists of Nottingham lie under to the Executive Com-



solicitor debarred from conducting a minor case in a police court? No. Then my idea is that we ought to enjoy the same relationship to a surgeon as a solicitor does to a barrister.

October 20, 1876.

OMEGA.

P.S.—Surely every chemist who has not joined the Trade Association will do so immediately, for union is strength.

### OUR AMERICAN CORRESPONDENTS.

[We have received the following letters. The one signed by Messrs. McKesson & Robbins reached us some weeks back, and we had intended to print of it only those sentences which could be separated from the personalities with which the letter unfortunately abounds. We find, however, just as we go to press, that Mr. Robbins has lately published a pamphlet on the decadence of pharmacy in Philadelphia, in which he prints *in extenso* the letter addressed by his firm to ourselves. This pamphlet he has circulated somewhat widely in the United States, and of course it has come under the notice of the two professors he attacks. We have received notes from each of these gentlemen, and in justice to them, now that the dispute has become public property, it seems the simplest method to print the letter and their rejoinders in full.—Ed. C. & D.]

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—We noticed in your issue of the 15th idem a very singular report on our Centennial Exhibition, as it is called, by your correspondent, Professor Remington, of Philadelphia, which is so full of misstatements of facts, and which displays such petty malice, that it deserves notice.

Thus: "McKesson & Robbins, New York, have a very small display, considering the amount of business which this firm are reputed to do. The drugs are exhibited in ordinary 8-oz. bottles, and fall behind in quality compared with many other specimens. They are pushing the sale of gelatine-coated pills, which they claim to be superior to any other kind of coating; but the great majority of the trade are not ready to believe gelatine more soluble than sugar, hence their success is but limited. In this case is to be seen some fluid extracts, elixirs, &c."

Now the facts are, that the display made in Philadelphia in the Centennial Exhibition by our house is almost literally the same in form and in design as was made in the Vienna Exhibition, which took place in 1873, for which we were awarded by the Austrian Government two separate medals of merit, one for the exhibition of a full line of specimens of crude vegetable medicinal drugs, all of which were indigenous within the United States, and the other for chemical and pharmaceutical products pertaining to or derived from these goods, the main intention being to exhibit samples of medicinal products which are peculiar to our country as known in commerce. These samples were exhibited in Vienna in bottles of limited quantities, because the quantity furnished was deemed sufficient for the purpose in view, because a large, bulky, numerous display of crude drugs was not deemed advisable, for many reasons. It resulted as follows:—In Vienna our house was the only house that made any general or similar display of American varieties, and in Philadelphia we also stand alone, for as far as we can ascertain ours is the only house making a complete display of commercial varieties, or otherwise, with the single exception of Messrs. Wallace Bros., of Statesville, North Carolina, who make a scientific and botanical display of many similar articles peculiar or common to the section of country which they represent, the distinction being that Messrs. Wallace Bros. are gatherers and preparers of a large line of vegetable drugs, while our house are large general dealers in all kinds of drugs. The assertion, then, of your correspondent, J. P. Remington, that our exhibit of American indigenous drugs falls behind in quality compared with many other specimens is a wilfully erroneous statement, which displays an aptitude to falsehood which appears to be characteristic. The assertion, also, that our house is pushing the sale of gelatine-coated pills under the plea that gelatine is more soluble than sugar is quite false, because the ready solubility of sugar in either cold or warm water, while gelatine will only dissolve readily in warm water, is well understood, as also the fact that we consider gelatine covering to be superior to sugar because of its less solubility, for the reason that gelatine can be applied to soft mass so as to preserve it, while sugar can-

not; also, that the objection to sugar coating does not consist in the coating of sugar, but in the fact that so delicate, and brittle, and soluble a coating as a thin covering of sugar requires the pill mass to be thoroughly dried by artificial heat, which is a great injury to delicate preparations containing alkaloids and other substances, besides rendering the dried mass quite insoluble as opposed to soft mass. We are large manufacturers of sugar-coated pills, as well as gelatine-coated pills, and therefore thoroughly understand the necessities attending the manufacture of both, while from our position as the largest distributing house in medicinal goods in the country we are better able to state facts about the consumption of goods than our so-called Professor of Pharmacy in Philadelphia, who is merely a proprietor of a small apothecaries' shop in that city, or our so-called Professor Peter W. Bedford, of New York, another correspondent of yours, whose main business, that for which he receives his principal compensation, is that of a travelling salesman or drummer for one of our smaller houses in the jobbing trade. Sugar-coated pills were first introduced in the American market in quantities about twenty years since by Messrs. Tilden & Co., of New Lebanon, New York, who are very large and respectable manufacturers of these products at the present time. Gelatine-coated pills have only been made in quantity by patented machinery (as each pill requires to be separate) within the past four years, and may be said to be only recently introduced, but they are rapidly displacing sugar-coated, and coming into general favour among distinguished physicians as well as pharmacists. In the last American Pharmaceutical Convention, which was held in Philadelphia a few days since, a valuable paper was read by one of our most distinguished pharmacists, Edward R. Squibb, M.D., on the administration of phosphorus, and, if a coating was desired, gelatine coating was recommended for phosphorus pills.

The truth is, the condition of pharmacy, as a science, as it exists in our United States, should be better understood in Europe than it appears to be. Ours is a new country, and sparsely settled, as compared with yours, and so, throughout our vast territory, we are compelled to avail ourselves of such education as can be procured, and titles are cheap and common. The usage is to call every person a professor who aspires to the office of a teacher; there is no recognised standard of qualification for a professorship in our country. The professor with us is the man who talks, or can talk to an audience, and, while we have many men of merit, we have the common experience—the consummate talker is apt to be more or less of an ignoramus, and quite frequently a consummate ass. About a year since Professor Remington, as he is called in Philadelphia, for the want of a more scientific subject, took upon himself to read an article in the Pharmaceutical Convention in Boston upon pills in general, in favour of sugar-coated pills in particular. He commenced his statement in regard to gelatine-coated pills by remarking that these should be more properly called "glue-coated pills," with intent, no doubt, to substitute a disagreeable name for the popular scientific term "gelatine," while the term "glue," as is well known, should only be properly applied to impure gelatine, in which he showed either the grossest ignorance of a common term or the most pitiful unfairness and dishonesty. In conclusion, you may be assured that your correspondents, J. P. Remington, of Philadelphia, and P. W. Bedford, of New York, are samples of a class quite too common in our, as yet, undeveloped and imperfectly educated country, and we only take the pains to inform you because we have a considerable European as well as American reputation to conserve, as the result of fifty years' establishment as dealers and manufacturers. Such individuals as Remington, in Philadelphia, and Bedford, in New York, are very well understood at home, while the facts about Pharmaceutical education, as it exists with us, are not as well understood in Europe as they should be. Hence this letter, which is very respectfully submitted.

We remain, gentlemen, yours truly,

McKESSON & ROBBINS,

New York: October 5, 1876.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—You were no doubt as greatly terrified as your correspondent was by the ferocious communication received from Messrs. McKesson & Robbins (written by Mr. Robbins) in relation to the notice in my letter of their exhibit. If it had fallen to your lot to have had his acquaintance, his letter would



not have received the attention which you may courteously be disposed to give it, for this method of attracting attention has grown to be quite stale with us as a cheap means of advertising.

It is seriously, though, a pity that he should feel called upon to expose further the deficiencies of their show; it can but do them harm, for we do not hesitate to say that many think the house might have done vastly better.

Crude drugs of ordinary quality are not improved in appearance by being broken up into small pieces to get them into small bottles.

Of what avail is it to say that they had a similar display at Vienna? What might have answered for the Austrian capital without competitors will not pass here at home in the face of such competition as that of Wallace Brothers, B. O. & G. C. Wilson, Bernhardt's, or many others.

Ordinary prudence should have taught this "large distributor of medicinal goods" that, after having made such a mistake, silence would have been, not only most becoming, but also most profitable. It was our duty to notice the display, and if they were not put there in that public place to be criticised, what were they put there for? If we had not mentioned their name at all in print, then the tone of his letter would doubtless have been an appalling shriek.

In looking carefully at their case again, with a view of reconsidering the notice, we feel that we cannot conscientiously change the statement made, and for fear of making it worse prefer not to qualify it.

With regard to the pill subject, you observe, no doubt, the cunning substitution of "our house is pushing the sale of gelatine-coated pills under the plea that gelatine is more soluble than sugar," for my statement, which is quite different, viz., "They are pushing the sale of gelatine-coated pills, which they claim to be superior to any other kind of coating, but the great majority of the trade are not ready to believe gelatine more soluble than sugar," &c.

Lastly, the resort to scurrility and vituperation is a pitiable exhibition of passion, and reminds us forcibly of the story (old, with you) of the lawyer's endorsement of the brief, "No case, abuse the plaintiff."

Very respectfully yours,  
JOSEPH P. REMINGTON.

Philadelphia College of Pharmacy:  
Oct. 30, 1876.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—A pamphlet has lately been issued by the firm of McKesson & Robbins, or more properly by Mr. Daniel C. Robbins, of that firm, in which occurs a letter addressed to yourself, and which reflects personally upon the undersigned.

The position of Mr. Daniel C. Robbins as a trustee in the college of pharmacy with which I am connected as one of the faculty, is one which should have called for his energies to have myself replaced by one more competent and satisfactory, were I really the kind of person which he depicts in his letter to yourself.

I am assured that no such feeling is entertained by others of our members or officers, and am convinced that the statement made by Mr. Daniel C. Robbins is not a candid or truthful expression of facts.

I have no desire to enter into any controversy, nor even to notice the personal vituperation in which he has so freely allowed himself to indulge, and would merely add that, in the cities where your correspondents "are very well understood," as well as throughout their entire acquaintance in this country, they will suffer no damage by the personalities and abuse heaped on them by this self-constituted authority upon the education of our own country, and particularly of that of American pharmacy.

Yours truly,  
P. W. BEDFORD.

10 Gold Street, New York: October 31, 1876.

THE PARIS *Figaro* has unearthed some eccentric inventions which were patented during the siege. Most of them were new weapons or projectiles conceived for the express benefit of the Prussians, but an ingenious chemist thought of the hungry sufferers within the walls, and (says the French journal) "after long and painful experiments he succeeded in discovering an infallible process for restoring to food already—modified—its nutritive properties, thus ensuring what he called *le ravitaillement perpetuel*." It appears that the process, unsuccessful in its original intention, has since been found valuable in the production of certain bodies used in perfumery.

## LONDON BANKRUPTCY COURT.

W. E. AKHURST, Chemist, 131 Walworth Road.

THE debtor, previously of 60 Silchester Road, Notting Hill, trading as Akhurst & Co., presented his petition for liquidation on August 22, and at the meeting of creditors held on September 14 a statement of affairs was submitted of which the following is an outline: creditors unsecured, 378*l.*; ditto partly secured, 460*l.* (value of security 50*l.*); and preferential claims, 20*l.* 8*s.* 4*d.*, Assets, *nil*. A composition of 2*s.* 6*d.* in the pound was accepted, payable 1*s.* in one month from registration, and 1*s.* 6*d.* at three months from the date of the first payment; and on October 17 a sitting for the purpose of dealing with the question of registration of the resolutions was held before Mr. Registrar Brougham. An objection to the registration had been lodged on behalf of Messrs. Muller & Schroder, of Altera, Germany, but on the case being mentioned it was stated that a short adjournment had been agreed to.

The following is a list of the principal creditors:—

	£	s.	d.
Muller & Schroder, Altera, Germany .. ..	200	0	0
E. J. Woollead, Larkhall Lane, Clapham .. ..	70	0	0
Canning & Mullins, 63 Newington Causeway .. ..	28	0	0
Thos. Bell & Co., Commercial Works, Stratford .. ..	20	0	0
Tucker, Johnson & Co., Worship Street, E.C. .. ..	20	0	0
Evans & Co., 60 Bartholomew Close .. ..	10	0	0

On the case coming before the Court on the 2nd inst. it was announced that the opposition to registration had been withdrawn, and the resolutions were accordingly ordered to be registered.

W. H. WALLWORTH, Chemist and Druggist, 1 Grove Place, Dulwich.

THE debtor had petitioned for the liquidation of his affairs, and at the meeting of his creditors, recently held, accounts were submitted containing the following items:—Debts, 1,228*l.* 16*s.* 3*d.*; against assets consisting of stock, 250*l.*; furniture and fixtures, 50*l.*; and book debts, 7*l.* 13*s.* 9*d.* It was resolved that the estate should be liquidated by arrangement, Mr. F. Nicholls, accountant, 14 Old Jewry Chambers, being appointed trustee, with authority to continue the business and to employ the debtor as manager so long as he might think it desirable, the debtor's discharge being also granted. The following were in the list of creditors:—

	£	s.	d.
J. Tate, High Street, Wells .. ..	947	1	8
J. G. Smith, Post Office, Dulwich .. ..	40	17	1
Hodgkinson & Co., 88 Leadenhall Street .. ..	40	16	5
Davy, Yates & Routledge, druggists, Southwark .. ..	32	4	10
W. Mather, medical glass dealer, Farringdon Road .. ..	23	11	7
T. W. Starkey, 8 Angel Court, E.C. .. ..	20	0	0
F. Newbery & Sons, 37 Newgate Street .. ..	13	10	3
A. P. Maynard, London Road, Forest Hill .. ..	10	18	9

On October 18 the resolutions were registered without opposition.

McCulloch & Perrin, Chemical Merchants, 9 Mincing Lane. THIS case has been already noticed in THE CHEMIST AND DRUGGIST. The bankrupts, Hugh Thomas McCulloch and Henry Perrin, trading in partnership under the firm of McCulloch & Co., had petitioned under the liquidation clauses, and resolutions for the acceptance of a composition of 3*s.* 4*d.* in the pound were come to by the creditors, but default being made in payment adjudication took place on August 1, upon the petition of Mr. George Boor, wholesale druggist, Artillery Lane, in respect of a debt of 243*l.* 9*s.* At the first meeting numerous proofs of debt were admitted, and a resolution came to for the appointment of Mr. F. B. Smart, accountant, Cheapside, as trustee. The meeting for public examination was held on the 10th inst., before Mr. Registrar Hazlitt, but the statutory accounts were not filed, and only the bankrupt McCulloch was in attendance. Mr. Rae, who appeared for the trustee, said that the bankrupt Perrin had absconded, and in the absence of the necessary accounts he presumed that the meeting would stand adjourned. The bankrupt McCulloch said that he desired to make a statement. He and his partner had presented a petition for liquidation, and resolutions for the payment of a composition of 3*s.* 4*d.* in the pound were registered, but the assets came into the hands of his partner, Perrin, who afterwards absconded. All the accounts



had been handed over to their solicitor, and in consequence of his partner's default he (McCulloch) was placed in a position of considerable difficulty. His Honour said that the accounts required were very simple, and the bankrupt had better place himself in communication with the official assignee of the Court, who would no doubt render him assistance. The sitting would be adjourned until December 1 at eleven, but with regard to Perrin a memorandum of his non-appearance would be entered. Order accordingly.

### Trade Notes.

THE GLASGOW APOTHECARIES' COMPANY have appointed Mr. Robert McAdam, who has been 15 years in their employment, to be their managing partner, in place of Mr. James McDonald, who died on September 6 last.

MR. THOMAS W. WILLS, formerly of Dartford, Kent, has succeeded to the business lately carried on by Hunt & Proctor, at 5 Bathurst Street, Hyde Park Gardens.

THE BUSINESS of Messrs. L. De Fontainemoreau & Co., patent agents, 4 South Street, Finsbury, and at Paris and Brussels, is now conducted by Mr. G. F. Redfern under his own name. He has long been associated with the firm.

MR. W. F. SANDERS, of Stratford-on-Avon, has disposed of his business to Mr. Thomas Womaek, of Leeds.

MR. ALEX. NOBLE, of Stockbridge, Edinburgh, will shortly take position as partner in the firm of Duncan, Flockhart & Co., in place of the late Mr. John Simpson.

THE DISPENSING BUSINESS carried on in Stockbridge by Mr. Noble has been sold to Mr. John Robertson, from Duncan, Flockhart & Co.

MR. W. D. WILLIAMS, of Salisbury, has taken the business of Mr. W. Biggs, at 49 High Street, Hampstead.

THE widow of the late Mr. Wm. Cameron has disposed of her business in Kelso to Mr. David Conacher, of Markinch, who is replaced by Mr. J. H. Normand, late of Dublin.

THE BUSINESS carried on for many years by Mr. J. R. Owen, at 88 Leyton Road, Stratford, has been bought by Mr. H. P. Williams, Victoria Dock Road, Canning Town.

MESSRS. JOHN TOMPSON & Co., of the Birmingham Vinegar Brewery, have purchased the extensive and long-established "Worestershire Vinegar" Works of Messrs. Swann & Co., Stourport.

MR. FLOYD, of Bury St. Edmunds, has taken into partnership Mr. Hicks, of Ipswich, and the business is now carried on as Floyd & Hicks.

\* \*

MESSRS. J. R. NEAVE & Co., of Fordingbridge, are again enlarging their premises. When completed, they will have increased their power of "output" threefold.

\* \*

THE APOLLINARIS WATER COMPANY have lately published an announcement comprising a report by Professor Wanklyn, who was sent by them, last August, to the Apollinaris Spring, to inspect the export arrangements. Mr. Wanklyn asserts that a supply of natural mineral water equal to 6,000 quart bottles per hour, or to more than 40 million bottles per annum, issues from that spring, and he further declares that no other than the natural gas is employed in charging the bottles.

\* \*

MESSRS. HORNER & BARKER, manufacturers of the patent nozzle-stoppered mineral water bottle, gave a dinner to about thirty of their licensees on the evening of October 25 last at the Holborn Restaurant. Mr. W. Davenport, of Messrs. Davenport & Co., the London agents of Horner's patent, occupied the chair, flanked on either side by the firm, and the vice-chair was filled by Mr. Sykes, of Sykes, McVay & Co. An excellent *menu*, fine music, and spicy speeches procured an enjoyable evening.

\* \*

AT THE NEW Masonic Club, Queen Victoria Street, on Nov. 1, Mr. G. C. Boor, C.C., wholesale druggist, of Artillery Lane, was presented with a testimonial, consisting of a silver breakfast and tea service by some of his local friends in the Green Lanes (Tottenham) district, in recognition of the very valuable services Mr. Boor had rendered to the parish by carrying through at his own risk two lawsuits, the results of which had greatly benefited the neighbourhood by providing better roads and good lighting.

TORY DRUGGISTS may gratify their loyalty to their hearts' content by selling a perfume just introduced by Mr. B. Robinson, of Pendleton, Manchester, called "The Empress of India's Bouquet." The perfume is remarkably cheap, and is by no means lacking in richness. The shilling bottles are good sized ones, corked with the patent sprinklers, and decorated with a faithful likeness of the Empress alluded to.

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THE ENGRAVINGS below show the several styles of Rimmel's almanacs for 1877. The topsy-turvy pocket-book is a very attractive and humorous novelty. It gives a series of quaint designs of society in some distant future, when "the gentler sex" shall no longer be the term to apply to our female fellow



creatures. These are excellently drawn, and well coloured. This amusing panorama makes a very cheap shilling's worth. Mr. Rimmel has also several novelties in sachets, Christmas and New Year's cards, miniature trunks of perfume, &c., all exalting that delicate perfume now so intimately associated with the very name of Rimmel.

\* \*

WE OBSERVE that Messrs. T. N. Kerr & Co., wine merchants, of Panton Street, Haymarket, are now appointing chemists and druggists as their agents. The firm, we notice, have formed direct relations with many of the important wine producing houses in France, Spain, and Germany, and are thus—from the nature of their arrangements—practically bringing the producer and consumer into direct contact, and are offering wines of guaranteed quality at literally wholesale prices. We believe that few reforms are more called for than the supply of thoroughly sound wines in the place of the unwholesome productions which are so largely consumed among our middle and lower middle classes of society. The taste for sound light wine especially is rapidly growing, and the agency for a good house prepared to go with the times cannot fail to form a valuable adjunct to the business of any chemist and druggist, as we indeed know has occurred in some notable instances, where the wine business has eventually proved the more lucrative branch of trade. We write thus confidently in the case of Messrs. T. N. Kerr & Co.'s agencies as it is within our knowledge that the firm is composed of substantial men who have had a large experience in the trade.

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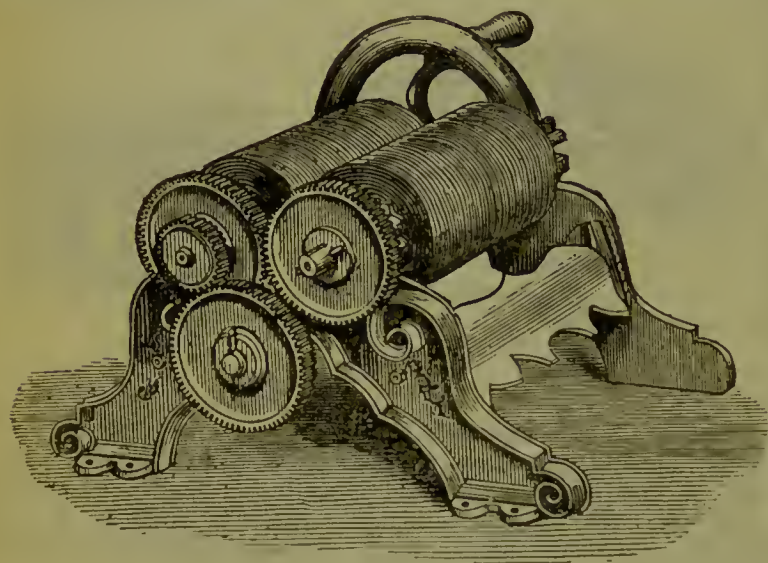
THE REWARD OF VIRTUE.—The *Grocer* reports the retirement from service of Mr. J. T. Cox, cashier to Messrs. Keen, Robinson, Belleville & Co., the mustard makers, after a regular employment in various qualities in that house for sixty-eight years. This is an occurrence quite worth noting, and the firm referred to send a few particulars to our contemporary respecting their *employé*. Mr. Cox, it appears, retires at the age of eighty-four, in excellent health. He has not had an illness during his long career, and only for the reason that he is not quite so nimble as



formerly he accepts "an offer made some years since, and retires to that repose which he so well deserves." Sixty-eight years' service indicates good qualities on both sides: we are not disposed to depreciate these. But neither are we disposed to bow with hysterical enthusiasm before the magnificent picture of liberality which Messrs. Keen & Co. relate of themselves with such evident satisfaction. Nor can we think that our friends of the *Grocer* are quite well advised in bringing this case forward as a prominent example for young men of the present generation. An ingenuous youth may well be inclined to turn from grocery to company-promoting if he comes to really believe that his prospects in the former, all things going prosperously, are just the chance of a moderate pension in return for sixty-eight years of faithful service.

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THIS DRAWING represents a new Patent Double Action Pill Machine, brought to something very like perfection, after many efforts, by Mr. Cocking, chemist, of Sittingbourne. The process of making pills by this machine may be thus explained:—As shown in the engraving, the machine is ready for piping. A flattened mass about 4 ozs. in weight is placed between the cylinders at this end, the 12 grooves here being shallower than the 18 nearest the driving wheel. On turning the wheel the cylinders revolve towards each other, and one revolution delivers the mass in pipes ready to be cut into 4-grain pills. One of



these pipes being now laid lengthwise between the cylinders, one of the cogwheels is slipped about an inch on the axis of the second cylinder, and this movement causes the two cylinders to revolve in the same direction when the driving-wheel is turned, that is, away from each other. By this means the pills are cut and rounded. From what we have seen of the machine we have no doubt that when quite accurately adjusted good round pills of exact size can be rapidly turned out; but some little practice in working the machine would be necessary. The piping, however, is an instantaneous process, in which it is impossible to fail. Obviously an immense amount of time and labour are saved by this, and we notice that Mr. Cocking supplies small machines adapted for piping only. The complete apparatus, as shown in the sketch, costs 10*l.*; smaller machines are made, and the piping machines may be had from 30*s.* upwards.

\* \*

HOW THE WHOLESALE DRAPERS COLLECT THEIR DEBTS.—The following is from a recent City article in the *Times*:—A system has long prevailed with wholesale drapers of sending their customers demand draughts through bankers for payment of accounts due. These notes have to be transmitted for collection to all parts of the country, and the banker is thus made a sort of bailiff, or debt collector for the trade. Much inconvenience and no little annoyance often arise from the system; the amounts are frequently very small, so that the banker gets no profit by the transaction, and altogether the custom places him in a most invidious position. It is surprising that resistance has not been made to the practice before now. The trader has the law to resort to if he cannot recover his debts, and in all ordinary cases should have no difficulty in doing so through his own representative. We are glad to see, therefore, that one of the leading banks in the City has at last had the courage to set its face against what is neither more

nor less than a species of intimidation, which is not creditable to the firms who resort to it. If a retail house is considered good for a certain quantity of goods, they should be furnished on fixed stipulations as to payment, and if these be not adhered to, the seller has his legitimate remedy. We hope the other banks will have the courage to join in putting a stop to this most unsatisfactory practice. The following is the notice on the subject which has been issued by the bank referred to:—"The manager regrets he is obliged to return without presentation the undorned draughts on demand. While the bank is desirous of continuing to afford every facility to bankers in the collection of cheques on banks in this town, as well as of acceptances locally payable, it cannot undertake the trouble of what is practically the collection of debts between traders."



PATENT MEDICINES.—The Government stamp duty on patent medicines, in the year ending March 31, amounted to 123,136*l.* 9*s.* 10½*d.*

HYGEIA.—The city of health suggested by Dr. Richardson is to be founded, it is said, next spring. The site chosen is the Courtlands estate, west of Worthing. It will be a curious place to visit, but a somewhat dull spot to stay at.

WE LIKE THAT COOK.—The etiquette of the kitchen daily grows more complicated. A well-known nobleman recently engaged a cook, who gave him warning at the end of two or three days because she found that he dealt at co-operative stores. He accepted the notice, and informed her that she could go at the end of her month. She insisted on leaving at once, as she "could not remain in the house with people who did such things." Upon this his lordship asserted his legal claim, and made her pay him a month's wages, which he sent to St. George's Hospital.—*World*.

CRUCIBLES.—Great progress of late years has been made in the manufacture of crucibles, particularly of large sizes. The Patent Plumbago Crucible Company, of Battersea Works, have lately shipped to a foreign mint a quantity of Morgan's patent crucibles for silver. They are calculated to melt an out-turn of no less value than 147,420*l.* each. The company are also supplying large quantities of their patent crucibles for 500 and 600 lbs. of brass and copper. Brass melted in heavy quantities is more homogeneous, and is now regularly so worked in Belgium and on the Continent generally.

TURPENTINE AS AN ILLUMINATOR.—At a recent sitting of the Academy of Sciences, a paper was read by M. A. Guillemare on the difficult problem of lighting by means of matter exclusively extracted from resinous trees. When it is sought in an ordinary lamp, intended for rape oil or petroleum, to burn spirits of turpentine or the oil called pyrogeic, extracted from resin (colophone) by fractioned distillation with 4 per cent. of quicklime, two obstacles present themselves hitherto considered insurmountable: 1, resinous liquids do not go up the wick for more than a few moments, as the capillary action soon ceases; 2, in all lamps commonly sold these same liquids burn incompletely and emit a dense smoke. Two points had therefore to be considered: How to purify resinous liquids to perfection, and how to construct a special burner. In this pursuit Mr. Guillemare has found that the resinous liquids above alluded to become milky in contact with ammonia, which produces an emulsion consisting of a solution of resin and naphthalin. Now the distillation of these substances by an open fire does not rectify them, as is generally supposed. But when the operation is effected on a substratum of water, the steam carries over the pure essence quite free from resin and naphthalin. The purity of the distillate may be tested by ammonia, which then produces no emulsion. In order to get rid of the smoke M. Guillemare has contrived a burner enclosed within two cones, the construction of which cannot be understood without diagrams; but the result is a dazzling light, superior to all others.—*Journal of Applied Science*.



A PHYSICIAN at Algiers has noticed a case of lead poisoning due to eating Roquefort cheese, in which the lead of the metallic wrapper in which that luxury is always encased had permeated the decaying luxury.

**SIMILIA SIMILIBUS CURANTUR.**—Dr. Hayle, of Rochdale, as president of the British Homœopathic Congress, held at Clifton on September 21, argued that the truth of the homœopathic theory was proved by its success in spite of its lack of plausibility. To urge that like should cure like was utterly irreconcilable, he said, with the notions prevalent when that doctrine was first preached. It was, in fact, casting out devils by the aid of Beelzebub.

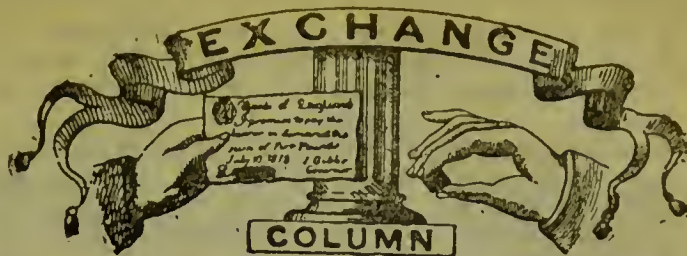
**AN INTELLIGENT CHILD.**—At Chesterfield County Police Court, a week ago, a druggist named Appleton was fined 1*l.* and costs for selling a quantity of laudanum in mistake for cough-mixture. The woman who purchased the mixture was administering it to one of her children, when the child refused to swallow it on account of its taste; and the mistake being found out, the bottle and its contents were handed over to the police, by whom proceedings were taken.

**A DISPENSING RISK.**—A drug clerk in Jersey City accidentally cut one of his fingers; the scar was so trifling that he paid no attention to it. In a few hours his arm began to swell, and a physician called in pronounced it a case of blood poisoning. The clerk remembered putting up a prescription shortly after he cut his finger, and it was in this way the poison entered the system. The arm was tightly bandaged, and strong antidotes administered, by which the swelling was soon reduced. The arm, for several days, remained powerless.—*Humphrey's* (New York) *Circular*.

**THE LATEST CHEMICAL DISCOVERY.**—The *Chemical News* of the 18th ult. startles us with the wonderful announcement that "an establishment has been opened in Belgium for extracting *the wool from grease* (we think this chemical curiosity justifies the italics, which are our own), and that the 'yield' of wool 'is understood to be large.'" We regret that the exact details of the process are not given, as they would doubtless be interesting, but possibly the method resembles in some degree that used for the extraction of sunbeams from cucumbers. The marvels of science certainly appear to be illimitable.

**THE CENTENNIAL AWARDS.**—When lamented "Artemus Ward" proposed, during our civil war, to raise a regiment of troops, in order to head off all strife and controversy as to who should be officers, he adopted the ingenious method of having the entire regiment composed of brigadier-generals. In like manner, our Centennial Commissioners, scenting afar off the troubles which would arise from making any discrimination between exhibitors of chemicals, drugs, and pharmaceutical preparations, wisely abstained from placing on the committee of judges anyone who was in the least degree familiar with the latter classes of exhibits; and then, to make it quite sure that nobody should feel aggrieved, they practically gave a medal to each exhibitor, and have thus far abstained from publishing any statement of the special reasons, if they had any, for the several awards. Everybody, therefore, is a "brigadier-general;" each one has his medal, and the only source of unhappiness is the dread that the Commissioners may publish a detail report.—*New Remedies* (N.Y.)

**A GRATEFUL PATIENT.**—At a recent meeting of the German Association of Naturalists, Dr. Hermes described some interesting characteristics of the young gorilla in the Berlin aquarium. He nods and claps his hands to visitors; wakes up like a man and stretches himself. His keeper must always be beside him, and eat with him. He eats what his keeper eats; they share dinner and supper. The keeper must remain by him until he goes to sleep, his sleep lasting eight hours. His easy life has increased his weight in a few months from 31 to 37 pounds. For some weeks he had inflammation of the lungs, when his old friend Dr. Falkenstein was fetched, who treated him with quinine and Ems water, which made him better. When Dr. Hermes left the gorilla on the previous Sunday the latter showed the doctor his tongue, clapped his hands, and squeezed the hand of the doctor as an indication, the latter believed, of his recovery. In fact the gorilla is now one of the most popular inhabitants of the Prussian capital. For Pungu, as the gorilla is called, a large glass palace has been erected in the Berlin Aquarium in connection with the palm-house.—*Nature*.



**TERMS.**—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of *THE CHEMIST AND DRUGGIST*, and all correspondence relating to it must be addressed to the "Publisher of *THE CHEMIST AND DRUGGIST*, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

#### FOR DISPOSAL.

- Muter's "Chemistry," new, 10*s.* 24/266.
- 54 specie jars, Maw's illustration, page 115, fig. D., 7*s.* each. 35/265.
- 12 bottles Leeming's essence, clean, 13*s.* Fortune, Chemist, Anstruther.
- Twemlow's chlorodyne, six one-pound stoppered bottles. Offer wanted. 31/264.
- Zuccato's papyrograph complete, as good as new; price 17*s.* 6*d.*, cost 2 guineas. 52/77.
- Plumbe's arrowroot, in packets, quite fresh. What offers? James Bordass, Driffield.
- Tincture press, root cutter and evaporating dishes, cheap. Pearson, 61 Hatton Garden, London, E.C.
- Materia medica cabinet, with Lescher's "Pharmacy," complete, new, 25*s.* Davies, March, Cambridgeshire.
- Myers's cattle food in various size packages. Particulars on application. Wigginton, Chemist, Peterborough.
- A set of Pulvermacher's combined bands and volta-electric belt; cost 5*l.*; will take 50*s.*; good as new. 20/265.
- Southall's materia medica cabinet, equal to new, price 16*s.* C. B. Robinson, 246 Ribbleson Lane, Preston, Lancashire.
- "Homœopathic Pharmacopœia" in exchange for the "British Pharmacopœia." E. Hermes, 13 Stephen's Green, Dublin.
- A soda water machine, complete; would exchange for a larger or drugs or patents. Alpha, 8 Charlwood Terrace, Putney.
- Sutton's "Volumetric Analysis," exchanged for odd numbers *Pharmaceutical Journal*. Apply for list. Piper, Bank Plain, Norwich.
- Five cwt. Tinnevely senna, good, in 28 lb. parcels at 4*d.* per lb. Sample on receipt of penny stamp. Address, Henry Woodward, Uttoxeter.
- Portable magneto-electric machine, in perfect order, mahogany case, double magnets, 15*s.*, or 30*s.* exchange. Thomas, 300 Bridge Street, Birmingham.
- Evans' cabinet of materia medica, cost 7*l.* 7*s.* (nearly as good as new), offered very cheap. What offers? Mr. Walker, 62 Adela Terrace, Antrim Road, Belfast.
- Large chemist's lamp for sale; modern, coloured glasses and lenses, handsome cut glass basin, ornamental double iron arm and centre bracket. Martin, Chemist, Clevedon.
- Offers wanted for 22 vols. of *The Chemist and Druggist*, complete and in good order; also, bicycle in good condition, nearly new. Address, James Kathro, Chemist, Michel-dean.
- Show bottles (seven) for sale, filled, 14 gallons in all, cut stoppers, price 30*s.*; street lamp with brackets, and handsome plate-glass show case, equally cheap. 64 Great Portland Street, W.
- Muter's "Chemistry," 10*s.*; Fownes's "Chemistry," fourth edition, 7*s.* 6*d.*; Macadam's "Practical Chemistry," 1*s.* 6*d.*; "Selecta e Prescriptis," 1*s.*; Royle's "Materia Medica," 8*s.* H., Gordon House, Horsham, Sussex.



Four-gallon copper still, worm and tub, 2l. 2s.; three Mayer's gazogenes, good condition, 5s. each; box enema, new, 7s. 6d.; reservoir enema, 10s.; Carson's meat preserver, new, in mahogany box, 15s.; breast pump, Maw's, fig. 4, 5s. 2s. 266.

Two chemists' stoves, large electric machine, air pump, burette, litre flask, retorts, brass scales, 4-oz. morphia mur., graduated litre jar, moulds, bottles, evaporating dishes, and other chemical apparatus; no reasonable offer refused. R. C., Chemist, Stokesley.

The *Lancet* sent weekly, half price; "Science Gossip," 1874-75-76, half price; Thornton's "Botany," with plates of the genera, 5 vols., 20s., cost 70s.; compound microscope, 3 powers, condenser, reflector, &c., 15s.; students' herbarium, 10s. 6d. Higginson, Newferry, Birkenhead.

To Chemists.—For immediate disposal, the entire stock, fittings, fixtures, bottles, jars, specie jars, carboys, &c., of a small chemist's shop. The stock is small, and the whole will be sold at a very low price, as the owner does not intend to continue the business. Address, C. D., Saint Ives, Cornwall.

A 30-gallon iron drum, screw tap and bung; small Albion printing press, platen 10 by 7 inches; Muspratt's "Chemistry," 2 vols.; several vols. *The Chemist and Druggist*, not bound; a London made phantasmagoria lantern, with solar and oxycalcium lamps. T. Cuthbertson, Lostwithiel.

Four recipes of choice perfumes, all having had an extensive sale, 3s. 6d. each, or 10s. 6d. the four; also an excellent recipe for cold cream and lime juice hair cream (not a soap), 3s. 6d. the two. The above are all worth the attention of chemists putting up above articles. Any of above sort on receipt of P.O.O. Pharmacist, 8 Palace Road, Lambeth.

Tilden's "Chemical Philosophy," 2s. 9d.; "Botanical Analysis," Griffith's, 1s.; "Introduction Natural Philosophy," Tomlinson, 1s.; Roscoe's "Chemistry," 2s. 3d.; Balfour Stewart's "Elementary Physics," 3s.; "Selecta e Prescriptis," 4s.; "Elements Pharmacy," Lescher, 4s.; Lindley's "School Botany," 2s.; Scoresby Jackson's "Materia Medica," last edition, 8s. 6d.; Garrod's "Materia Medica," 3rd edition, 6s. W. C. Kidd, 112 Camden Road, N.W.

At one fourth of these the published prices:—Miller's "Surgery," 16s.; Walsh's "Heart Diseases," 12s. 6d.; Muller's "Physiology," translated, 2 vols., 40s.; Miller's "Chemistry," 3 vols.; Kane's "Chemistry," 28s.; Currie's "Homoeopathy," 2 vols., 12s.; Flint's "Heart Diseases," 20s.; Turner's "Chemistry," 21s.; ditto, another edition, 30s.; Paris' "Pharmacologia," 9th, 20s.; Paris' "Diet and Regimen," 12s.; Thompson's "London Dispensatory," 21s.; Dunsford's "Homoeopathy," 8s.; Cooper's "Surgery," 18s.; Ellis' "Demonstrations Anatomy," 12s.; Arnot's "Physics," 31s.; Jahr's "Manual Homoeopathy," 30s.; Cooper's "Surgical Dictionary," 30s.; Lindley's "Botany," 18s.; Andral's "Pathological Anatomy," 26s. 6d.; Andral's "Clinique Médicale," 5 vols., 25s.; Pemberton's "Cancer," new, 42s.; Nicholson's "Mechanic and British Machinist," 31s. 6d. M. Percy, 12 James Street, Haymarket, London.

Chepa sponge case, as Maw's 92, 5l. 10s.; a very handsome dispensing screen, 7 ft. long, case at each end, glass in centre, with marble slab in front, 9l. 10s., cost double; a 6-ft. flat counter case, as Maw's 99, 7l.; a 5-ft. do., 6l.; a 6-ft. do., Maw's 105, 7l. 10s.; a 5-ft. do., Maw's 105, 6l. 10s.; a desk, with case in front, as Maw's 21, 65s.; a 3-ft. counter case, as Maw's 101, 70s.; a 4 ft. 6 in. do., Maw's 100, 70s.; a bent glass tooth-brush case, 27s.; a 6 ft. 3 in. bent plate-glass counter case, 24 in. wide, a bargain, 7l.; a square show-case, 3 feet high, 26 in. wide, 26 in. deep, glass front sides, top and door, a first-class show-case, 90s., worth double; a walnut wood cabinet, 5 drawers, 28s.; a 8-feet flat plate-glass counter case, 8l. 10s.; shop rounds, jujube jars, specie jars, carboys, a 36 5-grain pill machine, slate bed, iron-bound, in first-class order, 25s.; a lot of looking-glasses, very cheap, large and small; a dispensing screen, as fig. 41., 4l. 10s.; a 4 ft. 6 in. glass case, to stand on floor, 2 ft. 10 in. high, 12 in. wide, marble top, 2 doors and 2 shelves, inside, 5l.; a pair pedestal scales, fig. 5, 20s.; a few glass cases, fig. 81, 10 in. by 8 in., 4s. 6d.; 12 in. by 9 in., 5s. 6d.; 14 in. by 10 in., 6s. 6d.; 16 in. by 12 in., 7s. 6d. Natali, 213 Old Street, E.C.

Carriage paid.—Mead's "Mannual Apothecaries Hall," 3s. 6d.; Parnell's "Chemical Analysis," 3s.; Hooper's "Physician's Vade Mecum," 5s. 6d.; Taylor's "Medical Jurisprudence," 5s. 6d.; Fownes' "Chemistry," 4s. 6d.; Coote's "Syphilis," 4s.; "Dublin Pharmacopoeia," 2s. 6d.; plates to Ramsbotham's "Midwifery," interleaved, 10s.; Hardwick's "Photographic Chemistry," 2s. 6d.; Robinson "On the Teeth," 7s. 6d.; Wilson's "Chemistry," 2s. 6d.; Campbell's "Inorganic Chemistry," 2s. 6d.; Roth's "Chronic Disease," 3s. 6d.; Wilson's "Anatomist's Vade Mecum," 4s. 6d.; Wiltstein's "Pharmaceutical Chemistry," 2s. 6d.; Squire's "Companion," 5th, 5s.; Bell's "Mannual Surgery," 2s. 6d.; Key's "Surgery," 7s. 6d. (cost 18s.) &c. M. Percy, 12 James Street, Haymarket, London.

360 mahogany gold-labelled shop drawers in nests, all sizes, from 2 to 26 feet long; 3 nests shop drawers, suitable for a back warehouse; 250 deal dovetailed counter drawers, with tills, label drawers, &c., in nests, all sizes; one 4 ft., two 4 ft. 6, one 5 ft., one 8 ft. 9, one 15 ft. long superior mahogany wall cases, with cupboards under; 10 mahogany wall cases, with and without cupboards, all sizes; one superior 3-feet long mahogany book-case, with glass doors above and mahogany doors below, 7 ft. high, with cupboard under; 6 superior mahogany shop fittings, with drawers and lockers under, shelving with cornice, silvered plate-glass and mahogany pilasters above, complete, as Maw's 193, 194, and 196; two mahogany label chests, as fig. 26 Maw's; 2 superior 7 and 9-ft.-long solid mahogany panelled frontal counters, with mahogany moulded tops, as 150 and 152 Maw's; 2 superior mahogany moulded top counters, 13 ft. long each, with handsome ornamental gas standard brackets, with Argand and small burners, gas globes, &c.; 20 mahogany top counters, from 3 ft. to 26 ft. long, with or without drawers, one 3 ft. 6 long, 8 feet high grained wall fitting, with 2 folding panelled doors above and below, with shelves enclosed, suitable for keeping stock in; 1 superior 4 ft. 6 long 2 ft. 4 wide mahogany desk, with embossed glass screen; 2 ebonised show stands, 2 ft. 8 long each, 2 ft. high; 2 mahogany silvered plate-glass show stands, as Maw's 55; 2 Maw's soda water stands; 20 bent and flat mahogany show cases all sizes; 3 upright counter cases, two upright counter cases, with desks; one 3 ft. 3 long, one 4 ft. 6, one 6 ft. 6 long, dispensing screens; 2 handsome shop lamps and brackets, as fig. 5 Maw's; 10 mahogany window enclosures. Lloyd Rayner, 333 Kingsland Road, London, N.

Two plate-glass mirrors in ebonsied frames, 2 ft. 9 square; six 16-gallon pear-shape carboys, with cut-glass stoppers and circular mahogany stands; 50 pear-shape carboys, from 1 to 14 gallons; 26 specie jars, from 18 to 30 inches high, with Royal Arms, &c.; 56 upright show bottles, from  $\frac{1}{2}$  gallon to 6 gallons; 36 half and 1 gal. carboy; black glass stock bottles; 130  $\frac{1}{2}$ -gal., one  $1\frac{1}{2}$  and 2 gal. upright black glass stock bottles, with japan and gilt caps; 2 dozen patent oil bottles, with japan and glass caps, gold labelled; fifty 1, 2, and 3 lb. lozenge jars, with cut-glass knobs, as fig. 1 and 2 Maw's; 18 show jars, elegantly labelled, with gilt glass covers, as Maw's fig. D; 120 white flint-glass show jars, as fig. A Maw's, with and without labels; 4 handsome cut glass show jars, as fig. C Maw's; 36, each 12 ozs., and 2 lb. handsome dome-shaped white porcelain, gold labelled, shop jars; 150 earthenware shop jars, all sizes, with japan caps; 650 shop jars, as fig. 1 Maw's, white, blue, olive, and lilac; 800 gold-labelled shop bottles, all sizes; 30 dozen graduated glass measures, from 1 drachm up to 40 ozs.; 15 doz. graduated wine glasses; 300 gross white phials, all sizes, from 1 drachm up to 4 ozs.; 55 gross French shape phials, as fig. 35 Maw's, all sizes; 30 gross 1 and 2 oz. Lubin's heavy essence bottles; 5 gross 1-oz. stoppered round essence bottles; 2 gross 2-oz. heavy essence bottles; 1,200 silver-mounted and stoppered thumb smelling bottles; 1-gallon graduated York Glass Company's percolator; 360 glass, composite, marble, iron mortars and pestles; 1 qt.,  $\frac{1}{2}$ , 1 gal. tincture presses; large gas apparatus suitable for laboratory; six 6-gallon stone barrels, with brass taps; a set of copper measures,  $\frac{1}{2}$  pt. to 2 gallons; 8 chandeliers and standard gas brackets; 200 gross white phial and daffy corks; 50 gross pill and willow boxes, all sizes. Lloyd Rayner, 333 Kingsland Road, London, N.



Six forceps, set of sealing and extracting instruments, window card—"Teeth Stopped, &c.," battery and books; stamp for particulars. Edwards, 25 Queen's Road, Liverpool.

In consequence of extensive alterations by George Treble & Son, shop fitters, the whole of the following must be cleared out at once:—A complete set of druggists' fittings suitable for a chemists' shop in a small town or village; the fittings at present occupy a shop about 16 feet square, and comprise the following: Two window enclosures about 5 feet long, glazed with enamelled sheet glass; four 6-gal. pear-shaped carboys; about 20 feet run of deal painted and grained counter, with mahogany top, and the usual drawers, shelves, &c., underneath; about 9 feet run of capital show stand for counter, made in French polished mahogany, about 2 ft. 6 in. high; a nest of mahogany fronted chemists' drawers, about 15 ft. long, with gold labels, blackwood knobs, and bottle lockers underneath, drawers to correspond; also a nest of shallow mahogany drawers about 10 ft. long, with cupboards underneath, all in good condition; the mahogany edged shelving, cornice, &c., extending all round shop; 250 shop rounds, wides and narrows, of various sizes, from 40 oz. downwards; 12 blue syrups; 18 blue shop jars, 2 lb. and 4 ozs.; two small silvered glass mirrors in gilt frames; a 4 ft. mahogany and plate-glass dispensing case; a 2 ft. mahogany and plate-glass desk and case; a bent plate and mahogany counter case, 18 in. long, 15 in. deep, and 12 in. high; also a 16 in. Serpentine front tooth-brush case. The whole of these fittings, cases, bottles, jars, &c., to effect a clearance, will be sold for the sum of 48*l*. Apply to H. Potter, Chemist, Park Terrace, Sutton, S.E.

#### WANTED.

A stand for window, similar to Treble's fig. 31. 35/264.  
Attfield's "Chemistry." Hebron, Sundale, Knaresborough.  
Small outside case (dentist's), also few specimens, &c. 15/267.  
Good set of tooth forceps with key. State lowest price to Kay, chemist, Crewe.  
A pair of second-hand skates, best make, good as new. Senior, 28 High Street, Elgin.  
*Pharmaceutical Journals* for August 7, 1875, and October 9, 1875. Longley, chemist, Leeds.  
Nest mahogany-fronted drawers, 13 feet long, 3 feet high, with lockers. Bordass, Driffild.  
4 second-hand 6-gallon carboys for window, must be cheap. Address H. Hobson, Chemist, Walsall.  
Two metal suppository moulds to make 12 to 24. Send price and condition to G., 153 Liverpool Road, London.  
Soda-water machine, glass and stone bottles, bottling machine, marble mortar, warehouse scales. Chemist, 34 High Street, Putney.  
*The Chemist and Druggist* for July, 1873, and March, 1874. State price to Edward Halse, 44a Cannon Street, London, E.C.  
Two large second-hand specie jars; also some 40-oz. and 60-oz. tincture bottles. Address particulars to G. W. D., Strand Buildings, Londonderry.  
Richardson's or any other work on dental mechanics, and set of forceps and scaling instruments in exchange for other books or cash. W. T. E., 1 Prairie, Lowestoft.

#### ADDRESSES AND INFORMATION WANTED.

Chemists able to give any information in reply to queries printed below are respectfully requested to communicate the same, addressing in the first instance to the reference figure given, "Care of the Publisher of THE CHEMIST AND DRUGGIST." Charge for insertions, 1*d*. per word.

Colonel Wood—wounded in the knee at Delhi. 5/222.  
Rev. Charles Berry, supposed to be near Cannock Chase. 2/264.  
The Rev. Samuel Richard Dingley, Vernon Spicer Simmonds. 4/230.  
Wanted, the address of Mr. Margetts—tall, sandy whiskers. 22/233.  
J. T. Stillwell—professed to be an agent to the Whittington Life Assurance Company; tall, slight, black whiskers. 14/230.  
Mrs. Fanlds, formerly of Harrogate, Leeds, and Scarborough. F. K. Rollitt, solicitor, rather deaf, connections in Hull, successful information rewarded. 34/265.

The persons advertised for in this column under the numbers 24/232 and 15/243, have been reported.



WITH the continued tension of political affairs, extreme sensitiveness is still the chief characteristic of the money markets. This cause necessarily affects unfavourably enterprise in all branches of commerce, and until it is removed, or at least reduced, it is no use looking for any considerable development. There are nevertheless signs of more buoyancy in most of the produce and manufacturing markets, and the prospects of our export trade are certainly brightening. All depends, however, on the peaceful settlement of the Turkish difficulties—a consummation which, if it arrives, will be rather in spite of than by the aid of the diplomatic skill which the crisis has evoked.

The October shipments as reported by the Board of Trade were less in value by 652,000*l*. than those of October, 1875. This was a lighter diminution than has been reported recently, and five-sixths of it are traceable to the two products coal and iron. In other articles trade is evidently advancing, though in many the actual low prices make the total somewhat smaller than it reached a year ago. This is especially the case with alkalies and chemicals; but in these prices are perceptibly hardening, and this tendency will of course continue with the demand. The demand for heavy chemicals at the moment is generally good, and the stocks in most cases are low. A further advance has been made in bleaching powder. The nominal quotations are scarcely reliable, as lower terms have been made quite lately. Orders for the whole of 1877 have been booked at 7*l*. Citric acid is a shade easier; tartaric and cream of tartar are firm. Oxalic is also strong, at a slight improvement. Quicksilver has advanced, and finds buyers at 9*l*. per bottle. A remarkable advance has occurred in sulphate of quinine, which is now quoted first hand at 11*s*. per ounce. Nitrate of soda has been forced up by the Peruvian Government withholding supplies, and saltpetre is also dearer. Iodine is held firmly at 5¼*d*., and salicine and santonine are both scarce and dearer.

Much activity has to be noted in certain drugs. The quinine yielding barks have been briskly competed for, and have risen steadily in value. Camphor has also been the medium of considerable speculation. The stock is in but few hands, and the arrivals have been purchased in advance, the price running up rapidly from 70*s*. to 87*s*. 6*d*. Refiners are compelled to accept the terms offered, and as the holders have now their profit to make there is little doubt of a further rise. Some fine China musk has been sold recently at 50*s*. Nutgalls have also been briskly bought, and are firm. Castor oil is scarce here, and future stocks have been disposed of at slightly increased rates. Almond oil is cheaper. Cod liver is held firmly, and an advance is to be anticipated. Isinglass has sold 2*d*. dearer for East Indian produce, and 2*d*. cheaper for Brazilian.

A comparative failure of the beetroot crop has caused considerable excitement in the sugar markets, and largely increased prices.

In the oil markets linseed and rape have fluctuated slightly, and are now a trifle lower than last month. Olive has advanced at last, and there is but little obtainable here. The new crop is said to be much injured by the long-continued drought, and though good rains fell towards the end of October it is feared they came too late to develop the fruit. Palm oil is scarce and dearer.

Petroleum has been flat for the greater part of the month, but just now there is renewed animation, and a still further advance has been made. The present price for January-February is 1*s*. 7½*d*.

Turpentine has also been sent up considerably, American reaching 27*s*. 6*d*., but a slight reaction is now manifest, the closing price being 27*s*. 3*d*.



## Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.		1876.		1875.	
ACIDS—		s. d.	s. d.	s. d.	s. d.
Acetic .....	per lb.	0 3½	to 0 0	0 4	to 0 4½
Citric .....	"	2 7½	.. 0 0	2 10½	.. 2 11
Hydrochlor.....	per cwt.	5 0	.. 7 0	4 0	.. 7 0
Nitric .....	per lb.	0 4½	.. 0 0	0 5	.. 0 5½
Oxalic .....	"	0 5½	.. 0 0	0 5½	.. 0 0
Sulphuric .....	"	0 0½	.. 0 0	0 0½	.. 0 1
Tartaric crystal..	"	1 4½	.. 1 5	1 6½	.. 0 0
powdered ..	"	1 4½	.. 1 5	1 6½	.. 0 0
ANTIMONY ore .....	per ton	295 0	.. 300 0	260 0	.. 300 0
crude .. per cwt.		42 0	.. 0 0	40 0	.. 0 0
star.....	"	54 0	.. 55 0	59 0	.. 60 0
ARSENIC, lump .....	"	26 6	.. 27 0	30 0	.. 0 0
powder....	"	10 6	.. 0 0	13 6	.. 13 9
BRIMSTONE, rough .....	per ton	120 0	.. 130 0	150 0	.. 0 0
roll .. per cwt.		10 6	.. 0 0	10 0	.. 10 3
flour....	"	13 6	.. 0 0	12 6	.. 15 0
IODINE, dry .....	per oz.	0 5½	.. 0 0	0 7	.. 0 0
IVORY BLACK, dry ..	per cwt.	8 6	.. 0 0	8 6	.. 0 0
MAGNESIA, calcined..	per lb.	1 8	.. 0 0	1 6	.. 0 0
MERCURY .....	per bottle	180 0	.. 190 0	190 0	.. 200 0
MINIUM, red .....	per cwt.	23 3	.. 0 0	24 0	.. 25 6
orange ..	"	37 0	.. 0 0	37 0	.. 0 0
PRECIPITATE, red .	per lb.	4 2	.. 0 0	5 1	.. 0 0
white ..	"	4 0	.. 0 0	5 0	.. 0 0
PRUSSIAN BLUE ..	"	0 0	.. 0 0	0 0	.. 0 0
SALTS—					
Alum .....	per ton	145 0	.. 150 0	147 6	.. 155 0
powder.....	"	157 6	.. 160 0	165 0	.. 0 0
Ammonia :					
Carbonate.....	per lb.	0 5	.. 0 5½	0 7	.. 0 7½
Hydrochlorate, crude,					
white .....	per ton	560 0	.. 670 0	570 0	.. 650 0
British (see Sal Am.)					
Sulphate.....	per ton	370 0	.. 380 0	375 0	.. 390 0
Argol, Cape .....	per cwt.	80 0	.. 87 0	85 0	.. 94 0
Red.....	"	70 0	.. 75 0	70 0	.. 80 0
Oporto, red. ..	"	33 6	.. 34 0	33 6	.. 34 0
Sicily .....	"	0 0	.. 0 0	60 0	.. 62 6
Ashes (see Potash and Soda)					
Bleaching powd....	per cwt.	7 6	.. 7 9	8 0	.. 8 3
Borax, crude.....	"	27 0	.. 40 0	30 0	.. 50 0
British refnd. ..	"	41 0	.. 42 0	53 0	.. 0 0
Calomel .....	per lb.	3 9	.. 0 0	4 7	.. 0 0
Copper :					
Sulphate ....	per cwt.	21 6	.. 22 0	26 0	.. 0 0
Copperas, green..	per ton	55 0	.. 60 0	65 0	.. 0 0
Corrosive Sublimate	p. lb.	3 2	.. 0 0	3 11	.. 0 0
Cr. Tartar, French,	p. cwt.	102 0	.. 103 0	111 6	.. 0 0
brown ..	"	80 0	.. 85 0	95 0	.. 98 0
Epsom Salts ....	per cwt.	5 3	.. 7 0	5 3	.. 6 6
Glauber Salts ....	"	4 6	.. 5 6	4 6	.. 5 6
Lime :					
Acetate, white, per	cwt.	11 0	.. 20 0	11 0	.. 20 0
Magnesia : Carbonate	"	45 0	.. 0 0	42 6	.. 0 0
Potash :					
Bichromate ....	per lb.	0 4½	.. 0 0	0 5½	.. 0 5½
Carbonate :					
Potashes, Canada, 1st					
sort .....	per cwt.	26 0	.. 0 0	28 6	.. 0 0
Pearlashes, Canada, 1st					
sort .....	per cwt.	34 0	.. 35 0	33 6	.. 0 0
Chlorate .....	per lb.	0 10	.. 0 0	0 9	.. 0 0
Prussiate .....	"	1 0	.. 1 0½	1 0	.. 1 0½
red ....	"	0 0	.. 0 0	3 2	.. 3 3
Tartrate (see Argol and Cream of Tartar)					
Potassium :					
Chloride.....	per cwt.	7 0	.. 0 0	7 0	.. 0 0
Iodide .....	per lb.	7 9	.. 8 0	9 0	.. 0 0
Quinine :					
Sulphate, British, in					
bottles .....	per oz.	11 0	.. 0 0	6 6	.. 6 9
Sulphate, French ..	"	10 6	.. 0 0	6 2	.. 0 0
Sal Acetos .....	per lb.	0 7½	.. 0 8	0 8½	.. 0 0
Sal Ammoniac, Brit.	cwt.	44 0	.. 45 0	44 0	.. 45 0
Saltpetre :					
Bengal, 6 per cent. or					
under .....	per cwt.	19 0	.. 19 6	19 0	.. 19 6
Bengal, over 6 per cent.					
per cwt.		18 3	.. 18 9	18 0	.. 18 9
British, refined ..	"	23 0	.. 25 0	22 3	.. 24 3
Soda: Bicarbonate, p.	cwt.	11 3	.. 11 6	11 6	.. 11 9
Carbonate :					
Soda Ash .. per deg.		0 1½	.. 0 0	0 2½	.. 0 0
Soda Crystals per	ton	87 6	.. 90 0	92 6	.. 0 0
Hyposulphite, per	cwt.	0 0	.. 0 0	0 0	.. 0 0
Nitrate .....	per cwt.	12 6	.. 0 0	11 6	.. 12 3
SUGAR OF LEAD, White	cwt.	37 6	.. 38 6	0 0	.. 0 0
SUGAR OF LEAD, Brown,	cwt.	27 0	.. 0 0	32 0	.. 0 0
SULPHUR (see Brimstone)					

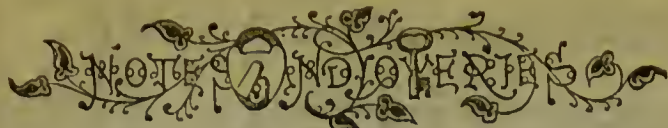
		1876.		1875.	
		s. d.	s. d.	s. d.	s. d.
VERDIGRIS .....	per lb.	1 1	to 1 5	1 1	to 1 5
VERMILION, English	"	3 4	.. 0 0	3 8	.. 4 0
China ..	"	3 0	.. 3 1	5 6	.. 0 0
DRUGS.		1876.		1875.	
ALOES, Hepatic .....	per cwt.	70 0	.. 160 0	60 0	.. 160 0
Socotrine ..	"	65 0	.. 180 0	60 0	.. 200 0
Cape, good ..	"	49 0	.. 50 0	35 0	.. 39 0
Inferior .....	"	42 0	.. 48 0	30 0	.. 34 0
Barbadoes ..	"	50 0	.. 190 0	45 0	.. 210 0
AMBERGRIS, grey .....	oz.	55 0	.. 65 0	40 0	.. 55 0
BALSAM—		1876.		1875.	
Canada .....	per lb.	1 3	.. 0 0	1 6	.. 1 9
Capivi .....	"	1 6	.. 1 9	2 7	.. 2 8
Peru .....	"	4 0	.. 5 0	5 0	.. 5 6
Tolu .....	"	0 0	.. 0 0	0 0	.. 0 0
BARKS—		1876.		1875.	
Canella alba .....	per cwt.	20 0	.. 24 6	16 0	.. 27 0
Cascarilla .....	"	16 0	.. 21 0	16 0	.. 22 6
Peru, crown & grey	per lb.	1 2	.. 3 0	0 8	.. 2 7
Calisaya, flat ..	"	2 6	.. 5 0	3 0	.. 3 6
quill ..	"	2 9	.. 5 0	2 9	.. 4 4
Carthagena ..	"	2 5	.. 3 7	1 0	.. 2 3
Columbian ..	"	2 0	.. 5 3	1 0	.. 2 10
E. I. ....	"	1 9	.. 5 0	1 0	.. 4 7
Pitayo .....	"	0 10	.. 2 4	0 6	.. 1 9
Red .....	"	2 0	.. 4 6	1 6	.. 4 9
Buchu Leaves .....	"	0 1	.. 1 1	0 1½	.. 1 1
CAMPHOR, China ..	per cwt.	85 0	.. 0 0	70 0	.. 0 0
Japan ..	"	87 6	.. 0 0	72 6	.. 0 0
Refin. Eng. per lb.		1 2	.. 0 0	1 0½	.. 1 1
CANTHARIDES .....	"	3 0	.. 3 6	3 6	.. 5 0
CHAMOMILE FLOWERS	p. cwt.	45 0	.. 220 0	45 0	.. 60 0
CASTOREUM .....	per lb.	7 0	.. 25 0	6 0	.. 24 0
DRAGON'S BLOOD, lp.	p. cwt.	140 0	.. 260 0	130 0	.. 200 0
FRUITS AND SEEDS (see also Seeds and Spices).		1876.		1875.	
Anise, China Star	per cwt.	85 0	.. 105 0	112 0	.. 115 0
Spanish, &c. ..	"	28 0	.. 40 0	30 0	.. 35 6
Beans, Tonquin ..	per lb.	1 7	.. 2 6	1 5	.. 1 9
Cardamoms, Malabar					
good .....	"	3 9	.. 4 2	4 2	.. 5 11
inferior .....	"	0 9	.. 3 8	1 0	.. 3 9
Madras .....	"	1 11	.. 3 9	2 6	.. 4 0
Ceylon .....	"	4 6	.. 5 0	6 0	.. 6 8
Cassia Fistula .....	per cwt.	10 0	.. 32 0	7 0	.. 13 0
Castor Seeds .....	"	5 0	.. 10 6	10 0	.. 10 6
Cocculus Indicus ..	"	9 0	.. 11 0	14 0	.. 16 0
Colocynth, apple ..	per lb.	0 6	.. 0 11	0 6	.. 0 11
Croton Seeds .....	per cwt.	35 6	.. 36 6	36 0	.. 38 0
Cubebs .....	"	30 0	.. 0 0	25 0	.. 27 0
Cummin .....	"	16 0	.. 26 0	21 0	.. 24 0
Dividivi .....	"	10 0	.. 15 0	12 0	.. 15 0
Fenugreek .....	"	9 0	.. 12 0	12 0	.. 16 0
Guinea Grains ..	"	20 0	.. 0 0	23 0	.. 0 0
Juniper Berries ..	"	8 0	.. 10 0	9 0	.. 11 6
Nux Vomica .....	"	9 0	.. 12 0	7 9	.. 14 0
Tamarinds, East India	"	10 0	.. 15 6	18 0	.. 24 0
West India ..	"	10 0	.. 15 6	9 6	.. 16 0
Vanilla, large .....	per lb.	26 0	.. 40 0	56 0	.. 68 0
inferior .....	"	13 0	.. 20 0	31 0	.. 51 0
GINGER, Preserved, per	lb.	0 4	.. 0 8	0 7	.. 0 9
HONEY, Chili .....	per cwt.	40 0	.. 47 6	53 0	.. 57 0
Jamaica ..	"	35 0	.. 46 0	40 0	.. 54 0
Australian ..	"	0 0	.. 0 0	45 0	.. 62 0
IPECACUANHA .....	per lb.	4 0	.. 4 6	4 0	.. 4 6
ISINGLASS, Brazil ..	"	2 6	.. 4 10	2 3	.. 4 9
Tongue sort ..	"	3 0	.. 5 2	2 8	.. 5 2
East India ..	"	1 6	.. 4 9	1 0	.. 4 10
West India ..	"	4 1	.. 4 9	4 3	.. 4 9
Russ. long staple	"	9 0	.. 12 6	13 0	.. 16 0
inferior .....	"	0 0	.. 0 0	0 0	.. 0 0
Simovia .....	"	2 0	.. 3 3	3 0	.. 4 0
JALAP, good .....	"	0 7	.. 0 8	0 7	.. 0 8
infer. & stems ..	"	0 6	.. 0 6½	0 6	.. 0 6½
LEMON JUICE .....	per degree	0 1½	.. 0 1½	0 1½	.. 0 2
LIME JUICE .....	per gall.	1 3	.. 1 8	1 6	.. 2 10
LIQUORICE, Spanish	per cwt.	0 0	.. 0 0	37 0	.. 90 0
Liquorice Root ..	"	12 0	.. 30 0	20 0	.. 30 0
MANNA, flaky .....	per lb.	5 6	.. 6 0	4 6	.. 6 0
small .....	"	1 6	.. 1 9	1 6	.. 1 9
MUSK, Pod .....	per oz.	19 0	.. 40 0	15 0	.. 42 0
Grain .....	"	45 0	.. 60 0	46 0	.. 59 0
OILS (see also separate list)		1876.		1875.	
Almond, expressed	per lb.	1 2	.. 0 0	1 2	.. 0 0
Castor, 1st pale ..	"	0 4½	.. 0 4½	0 4½	.. 0 0
second .....	"	0 3½	.. 0 4	0 3½	.. 0 4½
Cod Liver .....	per gall.	5 6	.. 7 6	3 6	.. 6 0
Croton .....	per oz.	0 2½	.. 0 0	0 2½	.. 0 0
Essential Oils:		1876.		1875.	
Almond .....	per lb.	20 0	.. 0 0	24 0	.. 25 0
Anise-seed .....	"	6 6	.. 6 9	9 0	.. 9 9
Bay .....	per cwt.	0 0	.. 0 0	65 0	.. 70 0
Bergamot .....	per lb.	10 0	.. 15 0	10 0	.. 21 0
Cajeput .....	per bottle	2 9	.. 3 0	2 4	.. 2 10
Caraway .....	per lb.	9 0	.. 9 3	9 0	.. 0 0
Cassia .....	"	4 0	.. 0 0	4 2	.. 0 0
Cinnamon .....	per oz.	2 6	.. 6 6	1 0	.. 6 6
Cinnamon-leaf ..	"	0 2	.. 0 4	0 2	.. 0 3½
Citronelle .....	"	0 2	.. 0 0	0 1	.. 0 2
Clove .....	per lb.	9 0	.. 0 0	10 6	.. 0 0
Juniper .....	"	0 0	.. 0 0	0 0	.. 0 0
Lavender .....	per lb.	1 8	.. 7 0	2 0	.. 5 6
Lemon .....	"	7 0	.. 9 6	7 0	.. 11 0
Lemongrass .....	per oz.	0 2½	.. 0 0	0 2½	.. 0 0



	1876.		1875.	
Essential Oils, continued:—	s. d.	s. d.	s. d.	s. d.
Neroli .....	3 0	6 6	0 4	3 0
Nutmeg .....	0 7	0 7½	0 7	0 0
Orange.....per lb.	6 0	9 0	6 0	9 0
Otto of Roses.....per oz.	13 0	25 0	13 0	25 0
Patchouli .....	2 0	3 6	2 0	3 6
Peppermint:				
American .....	12 6	14 9	17 0	0 0
English .....	34 0	35 0	32 0	34 0
Rosemary .....	2 0	2 6	1 4	1 10
Sassafras .....	2 3	2 6	2 3	2 6
Spearmint .....	14 0	16 0	12 0	19 0
Thyme.....	0 0	0 0	1 9	2 0
Mace, expressed ..per oz.	0 6	0 10	0 7½	0 10
Opium, Turkey.....per lb.	19 6	21 6	29 0	30 0
inferior .....	9 0	18 0	12 6	19 0
Quassia (bitter wood) per ton	100 0	140 0	100 0	210 0
Rhubarb, China, good and fine .....	3 2	4 5	3 10	4 8
Good, mid. to ord. ..	0 8	2 11	0 8	3 4
Dutch Trimmed..	0 0	0 0	0 0	0 0
ROOTS—Calumba.....per cwt.	18 0	26 0	22 0	24 0
China .....	22 0	24 0	19 0	24 0
Chiretta .....	0 3½	0 4	0 4	0 6
Galangal .....	19 0	22 0	19 0	22 0
Gentian .....	23 0	24 0	23 0	24 0
Hellebore .....	0 0	0 0	30 0	33 0
Orris .....	26 0	75 0	26 0	75 0
Pellitory .....	70 0	76 0	38 0	39 0
Pink.....per lb.	0 0	0 0	0 10	1 3
Rhatany .....	0 4	1 0	0 4	0 10
Seneka.....	3 6	3 9	3 5	4 0
Snake .....	0 6	0 6½	0 10	1 0
Saffron, Spanish ..	35 0	36 0	20 0	23 0
Salep .....	0 0	0 0	0 0	0 0
Sarsaparilla, Lima per lb.	0 5	0 7	0 0	0 0
Guayaquil .....	1 9	2 0	0 0	0 0
Honduras .....	1 1	1 6	1 3	1 11
Jamaica .....	1 9	3 0	1 6	2 10
Sassafras .....	0 0	0 0	13 0	15 0
Scammony, Virgin ..per lb.	24 0	30 0	25 0	36 0
second & ordinary ..	6 0	22 0	7 0	24 0
Senna, Bombay .....	0 1	0 4	0 1	0 4
Tinnivelly .....	0 2½	2 0	0 1	0 10
Alexandria .....	0 5	2 8	0 7	2 6
Spermaceti, refined ..	1 4	0 0	1 4	0 0
American .....	1 0	0 0	1 1	0 0
Squills .....	0 2	0 3	0 3	0 5
GUMS.	£ s.	£ s.	£ s.	£ s.
AMMONIAC drop ..per cwt.	2 2	2 10	2 5	2 10
lump..	1 0	1 14	1 6	2 10
ANIM, fine washed	11 0	12 10	11 10	13 0
bold scraped	9 10	10 17/6	10 0	11 0
sorts .....	6 10	9 5	7 0	10 0
dark .....	4 0	6 0	4 10	8 0
ARABIC, E.L., fine				
pale picked ..	2 19	4 0	3 5	3 15
srts., md. to fin.	2 9	2 18	1 8	3 2/6
garblings ..	1 1	2 4	0 19	1 15
TURKEY, pick. gd. to fin.	6 10	10 15	6 0	9 0
second & inf.	3 0	6 10	2 10	5 10
in sorts ..	2 5	3 5	1 10	2 15
Gedda .....	1 6	1 10	1 1	1 3
BARBARY, white ..	2 4	2 8	1 10	1 15
brown ..	1 12	1 16	1 5	1 8
AUSTRALIAN .....	1 15	2 7	1 17	2 6
ASAFETIDA, cm. to fin.	0 18	2 11	0 18	1 6
BENJAMIN, 1st & 2nd	10 0	39 0	12 0	34 0
Sumatra 1st & 2nd	6 12/6	15 5	7 10	12 0
3rd ..	3 10	5 5	3 10	5 10
COPAL, Angola red	6 0	6 15	5 10	6 10
Benguela ..	4 0	5 0	4 0	5 0
Sierra Leone, per lb.	0 6	0 11	0 8	1 0
Manilla.....per cwt.	15 0	27 0	27 0	34 0
DAMMAR, pale .....	66 0	68 0	58 0	61 6
Singapore .....	65 0	67 6	58 0	61 0
EUPHORBUM .....	11 0	16 0	12 0	20 0
GALBANUM .....	0 5	1 3	1 0	1 6
GAMBOGE, pckd. pipe per cwt.	220 0	275 0	180 0	240 0
GUAIACUM .....	1 3	3 0	0 6	2 0
KINO.....per cwt.	40 0	50 0	50 0	80 0
KOWRIE, rough ..	32 0	58 0	40 0	50 0
scraped sorts ..	60 0	0 0	54 0	70 0
MASTIC, picked ..per lb.	4 0	5 0	4 0	5 0
MYRRH, gd. & fine per cwt.	160 0	170 0	170 0	200 0
ord. to fair ..	65 0	150 0	61 0	170 0
OLIBANUM, p. drop	50 0	54 0	57 0	63 0
amber & ylw.	36 0	50 0	53 0	56 0
garblings.....	15 0	26 0	23 6	30 0
SENEGAL .....	3 0	3 5	2 10	2 15
SANDARAC .....	75 0	85 0	85 0	100 0
SHELLAC, Orange..	100 0	160 0	135 0	205 0
Liver ..	90 6	105 0	117 6	155 0
THUS .....	20 0	21 6	20 0	22 0
TRAGACANTH, leaf	240 0	400 0	180 0	360 0
in sorts ..	25 0	175 0	20 0	175 0
OILS.	£ s.	£ s.	£ s.	£ s.
SEAL, pale .....	33 10	34 10	33 10	34 0
yellow to tinged ..	31 0	33 0	30 0	33 0
brown .....	30 0	0 0	29 10	30 0
SPERM .....	90 0	0 0	90 0	92 0
BODY .....	0 0	0 0	0 0	0 0
COD .....	42 0	0 0	43 10	44 0

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Oils, continued:—	£ s.	£ s.	£ s.	£ s.
WHALE, South Sea, pale, per tun	35 0	36 0	34 10	35 0
yellow ..	32 0	34 10	32 0	34 0
brown ..	30 0	0 0	29 0	30 0
East India, Fish ..	26 10	0 0	23 0	0 0
OLIVE, Galipoli.....per ton	48 0	48 10	0 0	0 0
Gloja.....	47 0	48 0	47 0	0 0
Levant .....	0 0	0 0	43 10	0 0
Mogador .....	0 0	0 0	0 0	0 0
Spanish .....	0 0	0 0	0 0	0 0
Sicily .....	0 0	0 0	0 0	0 0
COCOANUT, Cochinn..	41 10	42 0	42 0	0 0
Ceylon ..	38 0	0 0	38 15	39 0
Sydney ..	32 0	37 10	33 0	38 10
GROUND NUT AND GINGELLY:				
Bombay .....	0 0	0 0	0 0	0 0
Madras .....	37 0	0 0	33 0	0 0
PALM, fine.....	41 10	0 0	39 10	40 0
LINSEED .....	26 0	0 0	25 0	0 0
RAPESEED, English, pale ..	40 0	40 5	40 10	41 0
brown ..	38 0	38 5	38 10	39 0
Foreign, pale ..	41 10	0 0	40 10	41 0
brown .....	0 0	0 0	0 0	0 0
COTTONSEED .....	30 10	32 0	28 10	0 0
LARD .....	57 0	0 0	62 0	0 0
TALLOW .....	31 0	46 0	30 0	54 0
TURPENTINE, American, cks.	27 3	0 0	26 0	26 3
French ..	0 0	0 0	25 9	0 0
PETROLEUM, Crude .....	0 0	0 0	0 0	0 0½
refined, per gall.	1 7	1 9	0 10½	0 10
Spirit ..	1 0½	0 0	0 9½	0 0
SEEDS.				
CANARY.....per qr.	70 0	80 0	160 0	200 0
CARAWAY, English per cwt.	44 0	45 0	44 0	0 0
German, &c....	0 0	0 0	0 0	0 0
CORIANDER .....	12 0	21 0	10 0	18 0
HEMP.....per qr.	40 0	45 0	36 0	33 0
LINSEED, English per qr. .	60 0	66 0	60 0	64 0
Black Sea & Azof ..	0 0	0 0	50 0	0 0
Calcutta ..	53 0	0 0	48 3	48 6
Bombay ..	54 0	0 0	52 0	0 0
St. Petersburg ..	0 0	0 0	0 0	0 0
Mustard, brown ..per bshl.	12 0	15 0	0 0	0 0
white..	13 0	16 0	10 0	13 0
POPPY, East India, per qr.	43 0	43 9	49 6	50 0
SPICES.				
CASSIA LIGNEA ..per cwt.	52 0	65 0	54 0	70 0
Vera .....	22 0	44 0	24 0	48 0
Buds .....	82 0	85 0	95 0	105 0
CINNAMON, Ceylon:				
1st quality .....	2 2	4 2	2 5	4 1
2nd do. ....	1 9	3 0	1 11	3 2
3rd do. ....	1 6	2 9	1 8	2 7
Tellicherry .....	2 9	3 0	3 0	3 5
CLOVES, Penang ....	2 2	2 2½	2 2	2 3
Amboyna .....	1 7	1 9	1 7	1 7
Zanzibar.....	1 0½	1 3	1 4	1 6
GINGER, Jam., fine per cwt.	93 0	202 6	80 0	160 0
Ord. to good ....	56 0	92 0	52 0	80 0
African .....	30 0	0 0	46 0	47 0
Bengal .....	29 0	30 0	40 0	42 0
Malabar .....	30 0	0 0	35 0	40 0
Cochin .....	48 0	144 0	57 0	120 0
PEPPER, Blk. Malabar, per lb.	0 4½	0 5½	0 5½	0 6
Singapore .....	0 4½	0 0	0 5½	0 0
White Tellicherry ..	0 10	1 4	0 11	1 5
Cayenne .....	2 4	2 10	3 0	3 7
MACE, 1st quality ..	2 3	3 3	2 4	3 3
2nd and inferior ..	1 0	2 2	1 1	2 3
NUTMEGS, 78 to 60 lb.	3 9	4 9	3 5	4 2
90 to 80 ..	3 2	3 8	2 11	3 4
182 to 95 ..	2 3	3 1	2 6	3 0
PIGMENTA .....	0 4	0 4½	0 3½	0 3
VARIOUS PRODUCTS.				
COCHINEAL—				
Honduras, black ..per lb.	2 5	2 8	1 10	2 5
silver ..	2 3	2 6	1 7	1 10
pasty ..	0 0	0 0	1 6	0 0
Mexican, black ..	2 4	2 5	1 9	1 10
silver ..	2 2	2 3	1 7	1 8
Teneriffe, black ..	2 3	3 3	1 9	3 2
silver ..	2 3	2 6	1 8	1 10
SOAP, Castile.....per cwt.	26 0	33 0	33 0	34 0
SOY, China .....	1 6	1 8	2 2	2 3
SPONGE, Turk. fin. pckd prlb.	0 0	0 0	12 0	16 0
Fair to good ..	0 0	0 0	4 0	11 0
Ordinary ..	0 0	0 0	1 0	3 0
Bahama ..	0 0	0 0	0 6	3 0
TERRA JAPONICA—				
Gambier .....	19 3	0 0	28 0	28 6
Free cubes ..	32 0	34 0	39 0	40 0
Cutch .....	25 6	27 0	25 0	27 0
WOOD, DYE, Bar ..per ton	£3 7/6	£3 10	£4 10	5 0
Brazil .....	0 0	0 0	9 0	27 0
Cam.....	18 0	29 10	20 0	36 0
Fustic, Cuba .....	8 10	9 0	9 10	9 15
Jamaica .....	5 5	5 15	8 0	8 10
Logwood, Campeachy..	9 10	10 0	9 0	10 0
Honduras ..	7 0	7 15	7 10	8 0
St. Domingo ..	5 10	6 10	6 5	6 15
Jamaica ..	5 5	5 15	6 15	7 0
LIMA, first pile ..	10 0	10 10	11 0	12 0
RED SANDERS .....	6 0	0 0	6 15	7 0





*Ne Sutor ultra Crepidam* asks:—(1) Is it legal for an unqualified man (A.) to take a drysaltory business and to partition a portion of the shop for the sale of poisons, and to re-let that portion at a rent to a properly qualified man (B.), whose name would appear over the door of such shop? (2) In the event of B. taking the aforesaid place, would it be necessary for him to attend personally and constantly? (3) Would it be legal to allow an unqualified assistant to serve poisons in that department, supposing every poison was properly labelled with the name and address of proprietor? (4) Would it be legal to have a communication between the shop of B. and the drysaltory business belonging to A., such communication being a door under lock and key—B. having the key at his sole disposal? (5) Would it be legal for an assistant of A. to serve poisons in B.'s shop, B. paying A.'s assistant a weekly salary for his services? (6) In the event of any accidental poisoning, would the proprietors A. or B. be criminally responsible because the proprietor B. did not give the shop his constant personal attention?

The answer to all this is very simple. A. may let his shop to whomsoever he may please. B., a registered chemist and druggist, may employ anybody as assistant, and there is no legal requirement for him to come near the place. There is nothing to prevent communication between the shops, and the lock and key would not be required legally. The proprietor B. is responsible for whatever may occur in his pharmacy. A. cannot be a proprietor at all. If such proprietorship or partnership in the drug business could be proved against him he would be subject to a penalty under the Pharmacy Act.

*Dens Leonis* asks:—(1) What is considered the best formula for dandelion coffee and dandelion cocoa? Is the root preferable to the powdered extract? (2) What is a good form for gelatine suppositories? In what is gelatine preferable to usual mediums for suppositories? (3) What is considered the most perfect apparatus for the inhalation of HCN. B.P. merely says:—Inhale in a suitable apparatus.

*A Constant Reader*.—You will find the formulæ you ask for in our Diary for 1877, which you will receive very shortly.

*Petrel*.—How to whiten a pair of stag's antlers that have become discoloured by lying by, is a somewhat stag-gering question to put to us. Without guaranteeing the result we would recommend you first to rub well the antlers with pumice stone and water, then expose to the fumes of burning sulphur, and finally expose to the sun for a few days. You will think the final stage of the process is given you in mockery, but we beg to remind you that it is not our fault if you ask us this question in November. Your second question is so badly written that we cannot with certainty decipher it completely. It seems that you want a pyrogallie hair dye. Beasley gives this formula in his *Druggists' Receipt Book*:—Pyrogallie stain.—Distil coarsely powdered nut galls in a retort, dissolve the solid acid which sublimes in a little hot water, add the solution to the acid liquid which passes over, separate the floating oil, shake the liquid with charcoal, filter, and add a little spirit.

*Syrup of Coffee*.—Mr. R. H. Bernhardt, in the *Druggists' Circular*, gives the following formula:—

Roasted coffee	..	..	..	..	2 troy ozs.
Crushed sugar	..	..	..	..	28 troy ozs.
Distilled water	..	..	..	..	A sufficient quantity.

Moisten the coffee, previously reduced to a moderately fine powder, with half a fl. oz. of distilled water; introduce it into a conical glass percolator and gradually pour distilled water upon it until 16 fl. ozs. of infusion have passed. Add this to the sugar contained in a glass percolator, in the orifice of which a piece of soft sponge has been introduced; and in order to prevent the immediate escape of the liquid a cork is to be tightly fitted in the tube of the percolator at the bottom. The whole is then to be closely covered and set aside for about two hours, or until the sugar has dissolved down to half its former bulk. Then the cork can be removed, and the liquid allowed to drop. If the liquid has all passed and there still remains a quantity of undissolved sugar in the percolator, pour it again upon the sugar until the desired result is effected. This last proceeding is, however, entirely unnecessary and only occupies time; an essential precaution, and on this simple mechanical contrivance depends the success of the entire process, is to carefully insert the sponge in the orifice—not too tightly, but also not too loosely—just sufficiently close to allow the syrup to pass drop by drop.

It is also requisite to the immediate transparency of the preparation that the infusion obtained by percolation should be perfectly clear; to accomplish this in the quickest and most convenient manner it is only necessary to close the orifice of the percolator with a wad of dry, well compressed cotton, tightly inserted.

It will be noticed that there is no heat used in preparing this syrup except in the parching of the coffee—and the transparency, reliability and beauty of the product cannot be surpassed by any generally known formula.

*Stamp Duty*.—We have frequently said that our opinion as to the liability of particular medicines to stamp duty can be nothing more than our private opinion, and can be of no weight with the authorities. Your label, according to the letter of the law, renders the mixture liable to stamp duty; there is no doubt about that. Whether the Board of Inland Revenue would interpret the law strictly in this case it is impossible to say. Ask them. Their address is Somerset House, W.C.

*Carbolic Acid Paper*.—Used in considerable quantities in the United States and abroad for packing fresh meats, &c., for the purpose of preserving them against deterioration by atmospheric or other influences. Melt five parts of stearine in a gentle heat, then stir in thoroughly two parts of carbolic acid, after which add five parts of paraffin in a melted form. The mass thus prepared is then well stirred together until it cools, after which it is applied with a brush to the paper, in quires, in the same manner as the waxed paper—so much used in Europe as a wrapping material for various articles—is treated.

*Leemings' Essence*.—In answer to W. C. D. Mr. Robson, of Grimsby, sends us the following receipt, which will, we think, answer his purpose:—

Cantharides	..	..	..	..	..	8 ounces
Camphor	..	..	..	..	..	2 ounces
Euphorbium	..	..	..	..	..	8 ounces
Oil of origanum	..	..	..	..	..	1 ounce
Castile soap	..	..	..	..	..	3 ounces
Spirits of wine	..	..	..	..	..	6 pints.

Mix. Digest for 14 days, and filter off.

J. W. says the following formula has been found to give the most satisfactory results:—

Pulv. cantharides	..	..	..	..	..	½ lb.
„ mur. hydrarg. corros.	..	..	..	..	..	2 ounces
Methylated spirit (not finish)	..	..	..	..	..	1 quart.

Macerate for 12 or 14 days, and wash down the residue on the filter with meth. spirit sufficient to make up the essence to two pints.

*Aloes*.—The addition of a little palm oil or glycerine to the physic mass will keep it in a plastic condition.

*Nur ein Geiger*.—The work on “The Theory of Sound, &c.” reviewed by us last month is sold at 5s. We hope your *nom de plume* does not accurately describe you. Even your predecessor Nero was something better than “only a fiddler.”

J. T. (Cambridge).—The Explosives Act, 38 Vict. c. 17, expressly includes in its definition of the term explosive, “coloured fires, and every other substance used or manufactured with a view to produce a practical effect by explosion or a pyrotechnic effect.” The making of small quantities for chemical experiment, and not for practical use or for sale, is exempted from the Act; and a person may keep for his own private use, and not for sale, a quantity not exceeding 30 lbs. See THE CHEMIST AND DRUGGIST for December, 1875.

*Ginger*.—We do not know the composition of a liqueur or cordial sold amongst publicans under the name of “Fettle.” Cooley's “Cyclopædia” contains an excellent article on liqueurs, with formulæ, but it does not include this one. Perhaps Balm of Malucca (which we condense from that work) might give you an idea. Mace, 1 drachm; cloves, ½ oz.; spirit (22 u. p.), 1 gallon. Infuse for a week. Colour with burnt sugar, and add 4½ lbs. lump sugar, dissolved in half a gallon of pure water.

*Alum*.—We cannot give you the exact *modus operandi* of curing rabbit or sheep skins. The first process is to wash the insides after thorough cleansing and scraping with a strong solution of alum, after which they are rubbed while hot with whiting. We believe borax is also employed sometimes.

X. F.—We do not know any formula for ung. acidi boracis. For ung. boracis, Squires gives borax 1, simple ointment 8. This is employed for chilblains or cracked nipples.

*Citrate* wants “a formula for citrate saline (known as citrate of magnesia) with instructions for granulation, &c.” The B. P. formula for *Sodæ Citro-tartras Effervescentis* was expressly intended to represent this compound. Directions for granulation are there given. But the “&c.” by which we suppose our correspondent means the ability to turn out a fine article, can only be acquired by patience and practice.

C. J.—The *Oil Trade Review*, published at 175 Strand.

H. W.—Yes, the Tea License was abandoned in 1870.

*Decoctum Hordei* has invented what he believes will be a useful article to chemists, and he asks, “If I offer the idea to any firm, and they refuse to take it up, of course my secret is out. How can I protect myself at the least possible expense?” The only certain protection is by first of all getting provisional protection. That would cost some 7l. or 8l. We advise our correspondent to consult Mr. G. F. Redfern, who compiles our monthly list of patents.